Clinical Lectures
ON
EXCAVATION OF THE LUNG IN PHTHISIS.

Delivered at the Brompton Hospital for Consumption and Diseases of the Chest,

BY R. DOUGLAS POWELL, M.D., F.R.C.P.,
PHYSICIAN TO THE HOSPITAL.

LECTURE IV.

Quiescent cavities continued, their closure or obliteration—Secreting cavities—Active or ulcerous cavities—Treatment of cavities, medicinal, hygienic, local.

GENTLEMEN,—The obliteration, or, if I may so express myself, the clinical extinction of cavities, is effected in several ways.

1stly. We may have an acute cavity or caseous abscess in the lung, which may directly heal, leaving only a scar behind. I have already referred to this condition (Lect. III.), which was regarded by Laennec as of not uncommon occurrence.

2ndly. The bronchus leading to a cavity which is contracting may become closed by the constricting action of the indurated tissue through which it passes, as illustrated by the specimen I now pass round. Such cavities no longer yield clinical evidence of their presence. This obliteration of the bronchus is almost impossible before the cavity has ceased to secrete.

3rdly. A cavity may become contracted beyond clinical recognition, its walls being collapsed, but without becoming welded together. This general contraction of a cavity, which may at any period be associated with closure of the bronchus leading to it, is commonly but a part of the general contraction of the lung, as we presumed to be the case with the patient we had before us on Monday last. It is unusual to have a large cavity form at the apex without the lower portions of the lung being affected by disease centres which also become quiescent and contract, each in its degree. It sometimes happens that the lung surrounding the contracting cavity is healthy, and the cavity then, usually a comparatively small one, tends to recede from the surface, the surrounding lung insinuating between it and the surface as it recedes. Such a cavity is marked by a depressed scar upon the surface of the lung, surrounded by radiating pulmonary wrinkles and attached to the costal pleura by a long band of adhesion. The specimen I pass round well illustrates this condition, which is also described and figured by Laennec. Cavities may become completely collapsed and obliterated by the compression of a lung from pneumothorax and subsequent empyema.

4thly. True cicatrisation of a chronic cavity which has a distinct limiting membrane is rare.

Chronic cavities do not, however, necessarily become quiescent, or, having become quiescent, do not always remain so. "Cold," depressed general health, accident, or evil hygienic influences may lead to renewed inflammatory activity in and about a cavity. As an example of accident, in this respect, I may name the case of a man upstairs, aged about fifty-five, whom we examined after our first meeting, and found him to have a peculiarly circumscribed cavity situated above the region of the left nipple; and, between it and the clavicle, the subdivided tubular breathing denoted either a much trabeculated vomica or dilated bronchi. Everything was then quiet, however; the pulse and temperature were low, and the cough and expectoration moderate. A few evenings afterwards this man had a kind of fit, and fell out of bed with some violence. On recovering consciousness, he spat about an ounce of blood. The next day he was much prostrated, with quick pulse, raised temperature, severe cough, and sanguineous viscid purulent expectoration. On examining the chest, the cavernous respiration extended upwards nearly to the clavicle, with plentiful fluid gurgling. There can be no doubt that this man, who is now again improved, ruptured a trabecula by the shock of his fall, and that the cavity became actively inflamed through the injury.

Secreting cavities are chronic cavities which have ceased to extend, but which continue, or have again taken, to yield much secretion. Their signs are not peculiar, save in the abundance of fluid gurgling. There is little or no fever present, perhaps a slight rise of temperature at night. The tongue is clean with a tendency to redness and loss of epithelium. Although the appetite may continue good, the patient loses ground, and acquires the sharp, hungry look peculiar to chronic phthisis. Diarrhœa is apt to supervene, and vomiting with cough is a common symptom. These secreting cavities are found post mortem to have well-defined walls, the inner surface of which is very vascular and of a dusky-red colour, lined with a thin pyogenic false membrane which can be readily scraped off.

The *active* or *ulcerous cavity* is a cavity which may perhaps have been long quiescent, or which may be only of recent date. From exposure to cold, or other evil influences, it assumes a state of active ulcerative extension. Such cavities are angry-looking, deep dusky-red on the inner surface, often studded with hæmorrhagic points or ulcerative erosions. They are usually highly trabeculated, and of very irregular shape, but sharply defined from the rest of the lung by a thin vascular wall. They yield a copious blood-stained purulent secretion, which, when expectorated, is mixed with the ropy secretion from the intensely vascular bronchi communicating with them. The lung-tissue surrounding such cavities is injected and œdematous, and at distant parts of the lung may be found pneumonic centres which evidently owe their origin to the inhalation of the acrid secretions from the cavities. In these cases there is quick pulse, furred tongue, headache, and a tendency to typhoid symptoms. The expectoration is, as above mentioned, usually blood-stained, or dark, changed clots may be removed from the cavity. Sometimes copious and even fatal hæmorrhage takes place from a large eroded vessel.

In the treatment of cavities, if we may for a moment consider them in this respect apart from the more general disease, there are several points worth attending to.

I have already referred to the treatment suggested by the principal symptoms—hectic fever, chills, anorexia—attendant upon recently-formed or extending cavities. I purposely avoided saying anything about the treatment of *contracting cavities*, for I believe that there is nothing special to say about them. There is one point, however, as regards the management of cough in these cases that may be mentioned. It often happens that the patients, long accustomed to expectorate easily, complain of "tightness" of the chest, and dry, teazing cough. This cough must of necessity be allayed by the free use of cough mixture, but the patients should at the same time be directed to restrain as far as possible, by an effort of the will, the cough, which by its rending action tends to disturb the healing process going on in and around the cavity. We must do what we can to keep the patient in his favourable condition of general health; we must watch for, and by timely treatment subdue, catarrhs, or, still better, if possible avoid them by judiciously-selected climates. We can give no medicine that will directly hasten the contraction of cavities. In some cases we may try by the selection of high climates to encourage the more rapid expansion of the opposite lung.

In the treatment of *secreting cavities*, the objects we have in view are (1) to lessen secretion, (2) to promote evacuation of what secretion is formed, and (3) to disinfect such cavities. Counter-irritation—of little use, I believe, whilst cavities are still forming or extending—is of great service in these cases. When we remember that in chronic excavation of the lung we almost invariably get an intimate union of the two pleural surfaces and an anastomosis of their vessels, we may see why the application of a blister externally may affect such cavities. As a matter of fact, they do influence them most decidedly. Strong iodine applications (two drachms to the ounce), or flying blisters, or perhaps a blister kept open for a few days by the use of savin ointment dressing, are the forms of counter-irritation suitable to different cases. Under their use the cough and expectoration frequently diminish. Acids and astringent iron tonics and oil are needed. Sedative cough mixtures

are directly contra-indicated in these cases, except for the purpose of giving rest at bedtime. It is in these cases that inhalations are most useful: for, firstly, there being no actively spreading disease present, they can do no harm; secondly, we can by their use render less noxious the pus that bathes the surface of the cavity, and which is apt to become inhaled during the effort of expectoration into distant parts of the lung; thirdly, inhalations help expectoration; fourthly, there can be little doubt that appropriate inhalations sometimes have a healing or an alterative effect upon the internal surface of the cavity.

The best substances for inhalation are—iodine (vapor iodi, B.P.), only to be used occasionally and for a few days together; carbolic acid (glycerine of carbolic acid, one drachm to two drachms, to half a pint of hot water); or tar water (liq. carbonis detergens, one drachm, to half a pint of hot water): useful disinfecting and, except iodine, somewhat sedative inhalations, that may be employed two or three times a day. They may be taken very well from a deep jug or a Nelson's inhaler with the sponge removed. Friar's balsam, tincture of larch, turpentine, &c., may be similarly employed from time to time. Perchloride of iron or other astringents may sometimes be used with Siegle's spray apparatus; but I have myself failed to find atomised astringents useful in these cases, and doubt if they penetrate so far as vapours inhaled in the ordinary way. Sea air, and perhaps especially sea-shore air, containing more or less salt spray, is usually beneficial to these patients. A liberal diet is of course necessary.

Cases of *active or ulcerous cavities* may require at first the free administration of alcoholic stimulants; a somewhat liberal allowance of wine is also subsequently needed, with nutritious support and abundance of good air. These active or ulcerous cavities tend to become endemic in overcrowded wards, and their occurrence should always lead us to look to sanitary arrangements, for their pathology strongly suggests their erysipelatous nature. It cannot, indeed, be too carefully remembered, in the treatment of patients with phthisical affections of the lungs, that they have internal wounds or sores, which, unlike most other internal affections, are accessible to the contamination of foul air, and that thus erysipelatous processes may be readily set up which are too apt to be recognised only as "intercurrent pneumonias" or other local inflammations.

Medicinally these cases may be combated by quinine internally, or in some cases full doses of perchloride of iron: sedative inhalations, containing tincture of benzoin and opium, hyoscyamus and chloric ether, carbolic acid and opium, &c., are useful. Ipecacuanha wine, administered as spray with Siegle's inhaler, is worth a trial, but patients suffering from this condition of cavities are often too prostrated to bear the fatigue of inhaling. If the more active general symptoms should lessen, but a blood-stained and copious expectoration still leads us to infer that the walls of the cavity are hyperæmic, I am convinced from observation that the best treatment is to apply a blister over the region of excavation, and to keep it freely discharging for several days by means of savin ointment dressing. I have seen the active symptoms completely subside under this treatment—which is, however, somewhat severe and painful—and the cavity subsequently contract, the expectoration, from being abundant and sanguineous, becoming scanty, viscid, and apparently consisting of bronchial mucus only.

Attempts have been made from time to time to treat lung cavities, on surgical principles, as local abscesses, by evacuation of the matter from without, or by the injection of astringent or disinfecting solutions. Dr. Mosler, in the *Berliner Klinische Wochenschrift* for October, 1873, relates three cases which he has treated in this way. In the first two cases he introduced a small cannula into the cavity, and daily injected a small quantity (twenty cubic centimetres) of permanganate of potash solution without causing any serious inconvenience. In a third case he introduced a silver drainage-tube into a large cavity, through which much discharge escaped. After six weeks the patient had slight hæmoptysis, and a weak solution of perchloride of iron was injected, and subsequently pulverised weak solution of carbolic acid and iodine were blown in through the cannula. The patient died at the end of three months of amyloid disease of organs.

Dr. Wm. Pepper, of Philadelphia,[1] has treated three cases by the injection of astringents through a fine Dieulafoy's needle, in one case, he states, with positive improvement. He suggests that hæmoptysis should be treated in this way.

These procedures, and others of a like kind, can only as yet be regarded as tentative, and as useful in showing what *can* be done if necessary in cases of the kind. So far as we can see at present, however, cases must be extremely rare in which such a treatment would be likely to prove useful. It sometimes happens, however, that a cavity is situated quite at the base of the lung, and the removal of secretion from it is extremely difficult, attended with vomiting and great distress; portions of the irritating matters from the cavity are inhaled into the bronchial tubes of the other lung, setting up fresh inflammatory centres there. In these cases the cavity, being at the lowest point of the lung, might well be treated as if it were a pleural abscess.

[1] Philadelphia Med. Times, March, 1874.

ON SALTATORIC SPASM.

BY W. R. GOWERS, M.D.,
ASSISTANT-PROFESSOR OF CLINICAL MEDICINE IN UNIVERSITY COLLEGE.

(*Concluded from p. 45.*)

A COMPARISON of the symptoms present in the seven cases which are now on record shows a remarkable variety in the circumstances under which the saltatoric spasm occurs, and in the symptoms with which it is immediately associated.

Four of the patients were males, and three were females. Their ages varied from ten to seventy years. In only two cases was there evidence of an inherited tendency to disease of the nervous system, but in four there was a history of past nervous disturbance; in one, a febrile attack, with hallucinations and headache; in one, slight hysterical symptoms; in two, epileptoid attacks. In almost every case some depressing influence could be traced as the predisposing cause of the affection. Weakness from pneumonia, from gastric ulcer, from bronchitis, and mental depression, appear among the predisposing influences. In one case the symptoms came on the day after a severe exposure to cold, and in one they followed an epileptoid seizure. In six out of seven cases the onset of the symptoms was more or less sudden; in one case they were preceded for a day or two by rigidity and in one case by tremor, in the limbs. In two cases sensory symptoms were noticed before the attack: in one there was a sense of weight in the legs for a fortnight; in the other, a gradual onset of the affection was preceded for two months by "rending" pains in the legs. The only symptom not connected with the legs which accompanied, in any case, the onset of the affection, was the loss of sight, which, in my second case, lasted for several hours after the epileptoid seizure with which the attack began.

The saltatoric spasm had in each instance common and characteristic features. It consisted in strong, quick contractions of the extensors and flexors of the legs, alternating, succeeding each other with great rapidity, and causing springing or jumping movements. In several cases it would appear from the descriptions that the feet left the ground entirely at every spring; but it was not so in the patients whose attacks I witnessed. In one of them the heels were raised several inches, and struck the floor with force on their descent; in the other the springing movements were from the hip and knee joints. In almost every case the muscles of the back seemed to share the spasm, and determined a backward inclination of the body in its upward movement; while in some cases a lateral inclination was noticed, consequent probably on a slight inequality in the degree of affection of the two legs. In one or two cases it was noted that there was some tonic rigidity as well as clonic spasm. The spasm in most cases was so violent as to throw the patient to the ground unless supported, and to render walking impossible, even with assistance. After a few seconds the patient was breathless and exhausted.

The spasm, however violent during an attempt to stand, lasted only during that attempt, and for the most part

ceased when the patient sat or lay down. The cessation was in several cases sudden and complete. In two cases slight clonic spasm persisted for a few minutes, accompanied in one case by rigidity. In six out of the seven cases the movements were synchronous in the two legs; but in one case the spasm, synchronous at the commencement of each paroxysm, alternated after a few seconds, so as to cause a peculiar movement. In no case, apparently, did the saltatoric spasm, excited by standing, spread to the arms; and it was excited by no other posture than standing, except in my first case, in which, at one time, similar spasm occurred in the back in the sitting and kneeling postures.

In several cases, however, clonic spasm could be excited by other stimuli than the attempt to stand. In three, slight clonic spasm occurred in the legs when, in the recumbent posture, the feet were pressed against a firm object. This was no doubt analogous to the spasm which was excited by the standing posture, and may be distinguished (even though it cannot be separated) from the remarkable spasmodic phenomena which in several cases were excited by other stimuli. In one case, and in one only, did tickling the sole cause spasm, clonic, spreading slowly to the arm, and then to the other leg. In another case a light percussion of the sole caused spasm, which spread slowly to the other leg. In four cases, however, clonic spasm resulted from voluntary movement of the limbs. This was distinct, although slight, in each case I have recorded, and was confined to the right leg, and, curiously, in one case spasm occurred in the right leg when the left was moved. In Bamberger's second case, at one period, movement in bed caused violent spasm in all the limbs and the back. The most remarkable attacks of this character, however, are those which occurred in Frey's case whenever the left arm or right leg was moved, and spread in a uniform order to the other limbs, although movement of these excited no spasm. Spontaneous spasm of the legs is mentioned in two cases, but in each was slight and transient. Thus the arms participated in two cases in the spasm which accompanied voluntary movement, and, in one case, in that which resulted from cutaneous stimulation, although, as already mentioned, they apparently did not in any case participate in the spasm which was caused by standing.

The special saltatoric spasm was in two cases rendered more intense by emotion, and in one of these varied remarkably at different periods of the day, being most intense at the period when many forms of chronic nerve disturbance are most intense—in the morning.

The power of the limbs was apparently unaffected in five cases. In the transient case I have described the right leg was weaker than the left. In Frey's case the limbs in which the spasm occurred on passive or active movement exhibited after a time weakness and considerable wasting. Sensation, when tested, seems to have been little affected. In four cases spinal tenderness was present; in three cases over the cervical enlargement, and in two of these also over the lumbar enlargement. In the fourth the tenderness was confined to the mid-dorsal region. Other remarkable symptoms—dyspnœa, palpitation, spasm of the lower part of the face, and spontaneous movements of the pupil—were present in Bamberger's first case, and are of great interest in connexion with the localisation of the disturbed function.

The duration of the affection varied; in only two cases was it less than a month, in one two days, and in the other eighteen days. In four cases it lasted several months, and in one it persisted to the end of life, six years after the commencement of the spasm. The mode of termination is detailed in the accounts of six of the cases, and was gradual in two, more or less sudden in four, the termination being in several cases accompanied by other slight symptoms of nerve disturbance.

In two cases more than one attack occurred. In Bamberger's second case there were two attacks, the second being slighter and occurring a few months after the first. The first case I have described is remarkable from the number of attacks, the patient having had four; at eighteen, nineteen and a half, twenty-one, and twenty-two years respectively, each lasting several months. The last two attacks were more severe than the first two, but recovery was complete and permanent.

Bamberger suggested that the saltatoric spasm is probably due to an excessive excitability of the spinal cord, to a "true spinal irritation," a functional disturbance unattended with any visible structural change. He believed that the spasms were reflex, excited by a peripheral impression, probably the pressure of the soles of the feet against the floor in the standing posture. In this opinion most of those who have narrated cases have concurred.

The occurrence of the special spasm chiefly when the sufferer attempts to stand is strong, almost conclusive, evidence of its reflex character. In several cases it could be excited in slight degree by pressure against the sole, when the patient was not standing, and it is on this ground the stimulation of the plantar nerves has been thought to be the excitant. But in several cases it could not be thus excited in the recumbent posture.

The question of its origin is complicated by the fact that in several cases clonic spasm of a somewhat different distribution was excited, when the patient was recumbent, by reflex irritation, either cutaneous or by passive movement, and that it occurred also on active movement of the limbs. This spasm differed from that which occurred on standing, not only in its mode of production, but in its slower evolution and extension, and in the involvement of the arms. It is evidently the indication of an excitation of a wider area of central grey substance than that involved in the actual saltatoric spasm.

This special saltatoric spasm, the violent alternate contraction of flexors and extensors which results in the springing movement, is probably the result of two influences. The reflex impressions involved in the erect posture act upon the centre for the co-ordination of the muscular contractions, a centre which these impressions find already in a state of voluntary stimulation, and in its abnormally irritable state the violent saltatoric spasms are liberated. The influence of the voluntary stimulation of the centre on the production of spasm is shown in the fact that in almost every case, at some period, voluntary movement was attended by jerkings resembling remotely those of the saltatoric movement. Moreover, in the first case I have recorded, during the most intense period of the affection, the sitting posture excited jerking spasm in the muscles of the back, which did not accompany movement in bed. Here it must have been the excitation of a special co-ordinating centre, aided perhaps by peripheral impressions from the muscles themselves, or from the skin, which caused the spasm. The saltatoric spasm may thus be regarded as excited by the reflex influence, its form and character being determined, however, and its extent limited, by the voluntary stimulation of the irritable centre. Where no such voluntary stimulation occurred (as in that excited by cutaneous stimulation) the distribution of the reflex spasm was less determinate.

It has been assumed by each writer on the subject that the seat of the morbid process is the spinal cord. The grounds for this opinion are the known reflex functions of the cord, the intermitting spasms of strychnia poisoning, and the fact that, in most of the cases in which it was looked for, some spinal tenderness existed, and in one case pressure on the tender spine excited clonic spasm. The opinion has received important and very interesting confirmation from recent experiments on the reflex action of the spinal cord in the mammalia, although they leave it still somewhat uncertain in what part of the cord we are to locate the morbid process.

Freusberg has shown (as Frey remarks) that in rabbits regular alternating contractions of the flexors and extensors of the hind legs may be co-ordinated in the lumbar enlargement.[1] He divided the spinal cord of a rabbit opposite the last dorsal vertebra, and when the animal had recovered from the immediate effects of the operation, there was such reflex irritability in the (of course paralysed) legs, that when the animal was held up, the hind legs were regularly flexed and extended sixty or seventy times a minute. The following observation makes it probable that a similar co-ordination may be effected in the lumbar enlargement of the spinal cord of man. Movements in the legs very similar to those described by Freusberg are presented by a patient now in the Hospital for Paralysis and Epilepsy, with disease of the spinal cord, under the care of Dr. Hughlings-Jackson. Sensibility to touch is lost, and to pain is diminished, as high as the lower ribs. Power is almost lost over the legs, but the muscles are not wasted. Reflex excitability is excessive; the legs are often strongly

[1] Pflüger's Archiv, Bd. ix.

flexed, but can be passively extended by considerable force. When nearly extended, manipulation of the limbs, or a push against the soles of the feet, sets up a series of regular alternate flexions and extensions of the hip-, knee-, and ankle-joint, by which the feet are drawn up and pushed down five or six inches. Flexion occupies not more than half the time which extension occupies. The movements are quite involuntary. A slighter rhythmical contraction of the quadriceps extensor can often be observed when no movement results. The movements are synchronous in the two legs, and can be produced in both by passive movement of one leg. They can be inhibited by a firm grasp round either thigh, and pressure on the muscles, but recur with increased force when the pressure is removed. Each movement occupies rather less than a second, and therefore this frequency is almost the same as that of the movements in the rabbit. But it is to be observed that these movements are far less frequent than those of saltatoric spasm, of which several occur in each second.

Although it is not easy to believe that a difference in time can indicate a difference in the position of the mechanism causing the movements, it is important to note some experiments of Woroschiloff,[2] which have led him to the conclusion that there exists in the upper part of the cervical enlargement a centre which co-ordinates rapid springing movements of the hind legs. He found that in the rabbits electrical stimulation of a section of the cord above the sixth cervical pair of nerves caused rapid alternate flexion and extension of the hind legs, "similar in form and strength to those which cause springing movements," while a similar stimulation of a section below that point caused only a rigid tetanus. The indications of excitement of a high region of the cord in several cases of saltatoric spasm (extension of the spasm on standing to the muscles of the neck and back, affection of the arms in the reflex spasm, and the phenomena of Bamberger's first case) lend additional weight to the significance of Woroschiloff's observation.

The close bilateral association of the affected centres is strikingly shown in the synchronism of the spasm in each case and in such phenomena as that presented by my second case, in which, while the child was lying on the couch, the right leg jerked while the left leg was steadily raised. Although the right leg was affected only in the recumbent posture, the spasm on standing was equal in the two legs. This is in harmony with the reflex excitation of the spasm.

An experiment of Freusberg[3] illustrates again the want of synchronism in the spasm in the two legs which existed in one patient. After division of the cord in the lower dorsal region, he divided one sciatic nerve so as to render one limb insensitive. After a time, on lifting the dog, first both limbs were strongly extended, and then there were alternate movements of flexion and extension, but the movements were not synchronous. Simultaneously with the flexion of one leg the other was extended, and *vice versâ*.

In every case in which a difference existed between the symptoms in the two legs, the affection of the right was the more considerable. This may be associated with the right being the "leading" leg in functional training.

I have said that we may distinguish, even though we cannot separate, the saltatoric spasm from the remarkable clonic spasm which was excited by cutaneous and other stimuli in the recumbent posture. The extension of the latter indicates the involvement of a wider area of central grey matter than the more limited, though more intense, saltatoric spasm, and I have hinted that this difference may be explained by the double voluntary and reflex excitation of the co-ordinating centre affected in saltatoric spasm, whereas the spasm which spreads more widely was determined exclusively by the reflex stimulation of the irritable centre. Recent experiments have thrown very interesting light on the probable position of the area of grey matter affected in this more widely-spreading spasm. The most striking feature was the extension of the spasm from the legs to the arms, and *vice versâ*. Owsjannikow[4] has found that if the medulla of a rabbit be divided at the point of the calamus scriptorius, stimulation of the fore or hind legs causes local reflex action, limited to the fore or hind legs respectively; whereas, if the medulla be divided a few millimetres higher up, about the junction of the lower and middle thirds of the floor of the fourth ventricle, reflex movements may occur in the fore legs from stimulation of the hind legs, and *vice versâ*; and hence he concludes that there exists in the lower part of the medulla a special centre for combining and co-ordinating the reflex movements of the anterior and posterior extremities. This centre may be supposed to be affected in the cases of saltatoric spasm in which the spreading spasm was observed. The supposition derives additional probability from the symptoms present in Bamberger's first case, and the occurrence of these is explained by Owsjannikow's observation. For this reflex centre appears to correspond in vertical extent with, and to lie beneath, the respiratory centre of the medulla. It lies, or extends, a little distance from the middle line on each side, and therefore must be contiguous to the vagal nuclei, while through this region there pass down the prolongations from the facial nuclei which are believed to subserve the movements of the lips. In Bamberger's case, the extension to the arm of the spasm caused by cutaneous stimulation of the leg, affords evidence of the affection of the higher combining centre of the medulla, and by an extension of the irritation to the grey matter in such close contiguity to this centre, the dyspnœa, palpitation, and facial spasm are easily explained.

The extreme muscular atrophy which, in Frey's case, occurred in the limbs in which the reflex irritability was most considerable, may probably be explained by assuming that the overaction of the grey matter has set up a destructive local infiltration of leucocytes, such as are to be seen in the medulla in hydrophobia, and in the spinal cord in severe cases of canine chorea.

It is of interest to note other forms of clonic spasm, which present certain points of association with saltatoric spasm. One of these is the very common form of clonic spasm in the gastrocnemius which is excited by putting the muscle suddenly on the stretch, and keeping up the tension. This seems related especially to sclerosis of the lateral columns of the cord. When this spasm exists in considerable degree, it is excited by the standing posture, in consequence of the tension thereby placed on the gastrocnemii, and the heels are raised an inch or so from the floor at each contraction. The contractions occurring several times per second, the body is repeatedly jerked upwards a short distance, although with incomparably less force than in saltatoric spasm. The mechanism of this clonic spasm is not quite certain, but if, as many authorities have maintained, and experimental evidence suggests, it is reflex from the cord, part of the central mechanism may be involved in its production, which, when in a state of high overaction, is concerned in the production of saltatoric spasm.

A distant resemblance may be traced between saltatoric and some forms of choreal spasm. A girl, aged eleven years, who is now under my care in the Hospital for Paralysis and Epilepsy, on account of post-choreal spasmodic movements, presents an occasional spasm comparable to one of the single starts of the saltatoric form. Though no doubt of central origin, it is interesting from its relation to reflex influences, and to emotion, especially in connexion with the influence of emotion on the saltatoric spasm in one of Guttmann's cases, and in one of my own. The spasm consists of a sudden isolated contraction of the muscles of the legs and back, by which the heels are raised from the ground, and the trunk jerked upwards. It is observed more frequently when standing, but sometimes a similar spasm occurs when she is sitting. But it is most marked when she is descending a flight of stairs. A similar start occurs on every step. It seems increased by the emotion which many people feel on standing where a fall is possible. A day or two before admission, when standing near the edge of an open cellar, she gave a start so violent as to amount to an actual jump, in which she went over the edge and into the cellar.

Almost all the subjects of saltatoric spasm were suffering from physical or mental depression at the time of the onset of the symptoms. In the cases which occurred in females other manifestations of hysteria were slight. That the associations of the spasm with hysteria are not very close is evident from the conditions of origin of the cases which occurred in men. In the second case which I have recorded

[2] Ludwig's Arbeiten, 1874, p. 110. [3] Loc. cit.
[4] Ludwig's Arbeiten, 1874, p. 308.

it may perhaps be compared with the spasmodic phenomena, trismus &c., sometimes seen after an epileptic fit.

The treatment of the affection, so far as recorded cases go, must be confessed to be unsatisfactory in its results. It has had in most cases little apparent influence on the duration of the malady. In the second case I have recorded the arrest of the affection may perhaps have been due to the diaphoresis induced, and this may suggest the propriety of treating the disease by the diaphoretic method, which is of proved efficacy in some cases of chorea. But it is right to point out that the case was slight in degree, that it differed from others in following an epileptoid seizure, and that in at least one other case "baths" seem to have been employed without result.

ON TWO CASES IN WHICH THE EXTERNAL ILIAC ARTERY WAS SUCCESSFULLY TIED FOR THE CURE OF ANEURISM:

WITH OBSERVATIONS ON THE FORMATION AND GROWTH OF A SOLID FIBRINOUS TUMOUR IN THE SAC; ALSO, ON THE OCCURRENCE OF THREE ANEURISMS IN THE SAME ARTERY, AND ON THE TREATMENT OF GANGRENE AFTER LIGATURE.

BY OLIVER PEMBERTON, F.R.C.S. EDIN.,

SURGEON TO THE GENERAL HOSPITAL; AND PROFESSOR OF SURGERY IN QUEEN'S COLLEGE, BIRMINGHAM.

(*Continued from p.* 122.)

CASE 2.—Mr. ——,[1] aged forty-eight, an active, well-built, wiry man, having lived all his life in a mountainous district, and engaged enthusiastically in field sports, especially hunting, came to me on the 11th of January, 1876, to ask my opinion about his left leg.

Uncovering the limb, I saw at a glance that he had an aneurism at the point of Scarpa's space, and was thinking in my own mind how eligible it looked and he looked for any form of treatment, when he called my attention to the popliteal space, where I found a second; but this was not all, for, now desirous to finger the course of the vessel above, I was soon arrested by a third underneath and some way above Poupart's ligament. He informed me that he had noticed the tumour in the popliteal space a little more than six months; the one at Scarpa's point not more than two; whilst the one beneath Poupart's ligament he learned the existence of from myself this day for the first time. Proceeding in my examination, I found I could stop all pulsation in the three aneurisms by pressure on the external iliac, which I was glad to feel, as high as I could arrest the blood-current with my finger, seemingly unaffected by disease. Also I found the heart's sounds natural, and the pulse quiet and regular. In regard to size, the uppermost aneurism was as large as a full-sized hen's egg; the middle one —rapidly increasing—as large as an orange; whilst the lowermost ranged between the two. There was but faint bruit anywhere, no œdema, and pain moderate; indeed so little disability, in his mind, did he consider there to be in the limb, that he walked from the station to my house—a considerable distance—as if nothing was wrong with him.

He informed me that he had contracted syphilis seven years since, and had encountered secondary symptoms in the shape of sore throat and iritis, that his ordinary life was strictly moderate and temperate, and that he had never been laid up with sickness. He seemed but little disturbed when I informed him of the very grave nature of his disease and as to the risks attendant on any surgery carried out for his relief. Before him was death in a few months, or an alternative of an operation under any circumstances most serious and uncertain, and in his case surrounded by unusual danger and complication. I soon perceived that he was a man of extraordinary nerve, and had on the moment made up his mind. "He would at once go back home, and speedily returning, would submit himself in confidence to treatment." With the traditions of his out-door life in his heart, without a tremble on his lips, he said "he thought he could stand as much as any one." Accordingly he travelled his hundred and fifty miles, and returning to Birmingham on the 15th, cheerfully prepared himself by rest during ten days for what he had to undergo.

Operation.—On Jan. 25th, in the presence of Mr. Crompton, and assisted by Mr. Goodall and Mr. Bennett May, ether being rendered completely effective by Mr. Lloyd Owen, I exposed the upper part of the external iliac artery by a free incision running considerably higher than the one ordinarily adopted in Abernethy's method. I had little difficulty by this means in applying the ligature around the vessel as close to the bifurcation as possible and as far from the sac, the fusiform expansion of which, notwithstanding, was clearly in view. The ligature employed was one of catgut, specially prepared for the case by Prof. Lister. Admirably round, firm, yet flexible, it seemed to be the perfection of a material for the purpose; moreover intended to be absorbent, but, as the sequel will show, this property it did not possess. In these proceedings, happily, there were no mishaps. The peritoneum, although necessarily handled in uncovering the artery so high up, was not injured, and not a single vessel in the wound required tying. As soon as both ends of the ligature had been cut off close, the edges of the wound were closed by silver sutures, during which an abundant carbolic spray was showered on the parts involved, and finally the whole were covered in by the ordinary complete antiseptic dressings. In the limb, pulsation ceased in all the aneurisms at the moment of tightening the ligature; this was then carefully wrapped in cotton-wool from toes to groin, and elevated.

The patient, on awaking, was calm, and speedily interested in learning some of the details of what he had unconsciously passed through. Four hours afterwards he complained of severe burning pain in the toes and foot, the temperature of which registered only 80°, and had a blanched appearance. In seven hours the pain was intense, particularly around and above the ankle; also there were marked capillary stasis and lividity about lower part of leg and dorsum of foot. Pulse 106, perspiring profusely. Half a grain of morphia injected.

The following day the toes and anterior part of the foot were blanched and insensible to touch, whilst a circle of increased sensibility existed around the ankle.

From this time I may narrow the account of the gangrene. For about three weeks it gradually spread, bit by bit, up the leg until a line of separation seemed fairly defined at the junction of the middle with the lower third of the limb. This, however, did not hold its ground, and in the weeks following slowly the death went on until at one time I feared for the knee. This, however, held its vitality so as to enable me with the aid of a good piece of skin and muscle from the inside, to fold a covering round for a stump, compelled to be formed by sawing through the bones two inches below the head of the tibia. All else had perished, and it was not until the 26th of April, for reasons which I shall subsequently relate, that I ventured to remove the dead from the living parts—exactly ninety-two days from the operation, and this was accomplished without the loss of more than a few drops of blood.

As to the treatment of the limb during this three months of gradual decay, all my endeavours centered themselves in maintaining the gangrene dry, and if possible antiseptic. For this purpose, Prof. Lister suggested to me to envelope the parts in carbolised cotton wool, prepared by dissolving carbolic acid in sulphuric ether, and saturating the wool with it. I did this, and succeeded for many weeks in keeping all sweet. At length the deeper and thicker parts in the calf overcame my precautions. These set up profuse discharges, which, added to those from the granulating surfaces, became fetid, and imperilled life by setting up hectic and irritative fever of a septic type, whilst the foot and lower third of the leg were as completely mummified as it was possible, and were able to be left bare. I was forced to dress the upper parts with antiseptic washes, and coverings assiduously night and morning, and fortunately by such means tided over difficulties that hitherto have almost invariably "sealed the fate of a patient" under similar circumstances.

The constitutional disturbances that were present during

[1] I was indebted to Mr. Coverton, of Knighton, and Mr. Hodges, of Ludlow, for the opportunity to treat this case.

this three months had their origin in very distinct surgical conditions. At the onset, and lasting for a period of from three to four weeks, was inability to pass water. I regarded this as belonging to mixed causes—due, on the one hand, to the interruption of so large an extent of the circulation by the application of the ligature, and, on the other hand, to progressive gangrene, both circumstances operating at the same moment of time with combined force to induce sudden and profound nervous shock. The wound, too, exercised an influence, for although it was thoroughly antiseptic and closed at the third week—short of a few granulations at its outer extremity—it then suddenly became œdematous, whilst rapid swelling about the upper aneurismal sac, and extending below Poupart's ligament, indicated the diffusion of mischief over a wide space. For six or seven days I was in hesitation as to the propriety of an incision into some part of this—for I had little doubt but that I was encountering a suppuration of the sac, so near to which was placed the ligature—when, fortunately, the pus broke along the inner end of the wound underneath the healed integument, and found its way in a vast quantity to the granulations, yet keeping open its other end. Great relief followed this occurrence, which was unattended by any blood discoloration save that due to the disturbed granulations. But if this alleviated some of the patient's distress, more especially in regard to the mitigation of the morning perspiration and the loss of appetite, the onward progress of the gangrene speedily renewed their influences. It was very painful to witness the daily emaciation, the loathing for food that was evidently present, added to which there was intolerable pain in the dying limb, assuaged only at nightfall by the subcutaneous use of morphia.

At last came the succour of amputation; and as that proceeding was performed when all gangrene had absolutely ceased, his hopes and his strength began to revive at the moment, and were never arrested by any drawback to the date of his leaving for home, on the 20th of June—five months after the operation,—his stump having soundly healed, and the aneurismal sacs at Scarpa's point and in the popliteal space being reduced to simple well-defined indurations in the course of the artery.

And now to the story of the ligature. I had naturally felt very anxious that my patient should, if possible, encounter no risk from an inadequate material being used to secure the vessel, and at the same time I could not pass by the importance, when arterial disease appeared so marked, of avoiding cutting through the coats by ulceration, and escaping suppuration. Certainly I should not have deemed it right to have suspended every hope of recovery on the hazards of the ordinary catgut, for although I had myself met with no disaster in the various instances in which I had secured large vessels in their continuity by such means, I remembered I had used it only in cases where I had still left me a retreat in case of failure. Here, in a desperate position, I was clearly about to play with a final stake. Under these circumstances I consulted Professor Lister. After one or two trials he sent me the ligature I used, anticipating that whilst it would prove sufficiently enduring to secure the effectual closing of the artery, it would be no less capable of complete removal by absorption.

With this, as I have already stated, I tied the vessel by the reef-knot, cutting off both ends close. I never expected to see anything of it again. But it was otherwise. When the suppuration of the sac had ceased I still found the wound at the outer end keeping very slightly open, and on dressing it some eight weeks after the operation, to my great astonishment saw lying on its surface the unaltered noose of the ligature.

On communicating with Professor Lister on the subject, and returning him, for safe keeping, this now historical loop, he writes:—"The catgut you used had been prepared by a new method, which I have been labouring to perfect, and which I expect very soon to publish; but your case shows that it is possible to have the catgut, as it were, too well prepared, so as to remain unabsorbed and also rigid, and in consequence of the latter property liable to make its way out like wire or glass, with or without suppuration."

This incident over, the wound finally closed, so firmly indeed as to preclude any idea of the probability of hernia.

Here then terminates the mere record of the events of this case.

(To be concluded.)

MANITOU IN COLORADO (U.S.A.) A HEALTH RESORT IN CONSUMPTION.

BY HERMANN WEBER, M.D., F.R.C.P.,
PHYSICIAN TO THE GERMAN HOSPITAL.

MANITOU appears as yet to be but little known in England, although it possesses some special advantages for the English invalid, counterbalancing the disadvantage of the great distance. Having lately had the opportunity of observing the beneficial effect of its climate in several cases, I venture to direct the attention of the profession to it by this short communication, and beg to refer for further information to a pamphlet by Mr. Edwin Solly, who is in practice in Manitou, and who is a son of the well-known late surgeon to St. Thomas's Hospital.[1]

Manitou, 6370 feet above sea level, 38·5° N. latitude, 105·5° W. longitude, is situated in a valley on the plateau to the end of the Rocky Mountains, close to Pike's Peak (about 14,300 feet high). It is seventy-five miles south of Denver, the capital of Colorado, and five miles west of Colorado Springs, accessible by rail. Although Manitou lies in a valley, the hills rise so gradually that they shelter it from wind and dust storms, so injurious to the invalid, without shutting out the sun, which, even on the shortest winter day, shines at least during six hours. Accurate meteorological observations have been made only during a short space of time, but I may assume from numerous reports that the air and soil are remarkably dry, and that the number of clear days is very great, exceeding 200 in the year, the remainder being divided between fair and cloudy days. Most of the invalids describe the air as eminently exhilarating, and Mr. Solly ascribes this to a "highly electric condition of the atmosphere." The temperature varies considerably as well at different hours of the same day, as also during different months and seasons of the year. From a table of meteorological observations at Colorado Springs (400 feet lower than Manitou), given in Mr. Solly's pamphlet, the figures in the accompanying table are abstracted, the degrees being Fahrenheit.

The year 1873 has been described to me, I may add, as exceptionally rich in rain and in snow, the whole amount of other years being in general under thirty inches.

It will be seen from this table that autumn (September, October, November) has the greatest number of clear days (86), with a very moderate heat. The trees being principally cedars and pines, with but scanty admixture of deciduous foliage, the dampness arising from the decay of fallen leaves is almost imperceptible. This season is to the majority of individuals the most agreeable, but the winter is probably the most beneficial to the invalid, compared with other climates. The difference between the night and day and sun and shade temperatures is great, but the cold night do not hurt the patient, who is in-doors, and during the day even the delicate invalid, if warmly clothed, can, according to his condition, sit or walk and ride in the sunshine, the air being mostly calm, owing to the protection of the mountains, and the dryness of the air depriving the cold of its depressing effect. A very intelligent patient of mine, who has become well acquainted with different climates in his long search for health, writes from Manitou Hotel on the last of December, 1876:—"From the 16th of October [the day of his arrival at Manitou] to the 23rd of December there were only seven days that were not fine, and the fine days were superb—bright, clear, dry, and exhilarating. Of the seven not fine days I was able to get out to walk on five. The first three weeks of December were uninterruptedly fine. The thermometer in the shade at the north side of the house stood between 50° and 60° during the day; on a few unusually warm days it rose to 65°. I was able to sit out in the verandah in the half shade with only a light overcoat on. On the night between the 23rd and 24th of December it snowed to the extent of about six inches; the 24th was dull and very cold, the thermo-

[1] Manitou, Colorado, U.S.A., its Mineral Waters and Climate. By S. Edwin Solly. Saint Louis, 1876.

meter not rising above 9° F.; the 25th was quite bright and fine, but cold, the thermometer not going over 30° F. all day (in the shade); the 26th was snowy again, though not much fell; since then it has been quite fine till 1 or 2 o'clock, and overcast afterwards. The weather continues cold; the thermometer has generally gone down to zero at night and not gone over 30° in the day, but it is quite dry and very exhilarating. I have been able to sit out in the verandah for two or three hours these last days, well wrapped up, in the sun; and a party of gentlemen have gone out riding each day."

Months.	Mean, 7 A.M.	Mean, 2 P.M.	Mean, 9 P.M.	Mean of day.	Cloudy days.	Fair days.	Clear days.	Rain.	Snow.
	Degrees.	Degrees.	Degrees.	Degrees.					
December, 1872	17·5	38·5	22·7	26·20	7	3	21	0·23	3·8
January, 1873	18·6	39·7	24	27	—	9	22	0·13	0·4
February, 1873...	19	42·2	26·62	29·27	1	10	17	0·05	0·5
March, 1873	31·32	55·32	39·09	41·9	2	6	23	0·19	0·6
April, 1873	35·23	49·92	36·66	40·61	6	7	17	0·96	8·3
May, 1873	48·03	61·94	48·15	52·84	12	7	12	1·76	—
June, 1873...	62·83	76·28	61·38	66·81	7	6	17	2·65	—
July, 1873	65·0	78·63	64·29	69·33	5	12	14	4·53	—
August, 1873	62·73	75·87	63·32	67·31	6	7	18	3·28	—
September, 1873	52·32	60·05	54·6	58·65	2	4	24	1·70	—
October, 1873	36·9	58·48	39·45	44·95	4	2	25	0·65	8·7
November, 1873	32·02	54·08	45·27	40·46	1	2	27	—	—

Spring is the worst season for an invalid, on account of snow and wind, especially in March and the first part of April, while in the second half showers are frequent. May brings again pleasant warmth, with little rain, but even in spring there are comparatively few days in which the invalid cannot with due care spend some time in the open air. The summer is tolerably hot, but, owing to the comparative dryness of the air, even delicate persons can, if only the head is well protected, enjoy walking, riding, and driving. The nights are always cool, and there are no mosquitoes. During July and part of August, Mr. Solly states, thunder showers are frequent, but only of short duration; the sandy soil dries rapidly, and the air does not produce that feeling of uneasiness and oppression so commonly preceding thunder storms in lower regions. In summer the invalid who can stand a certain amount of fatigue and exposure can ride to the farms higher up in the mountains, or can live in tents at elevations varying from 8000 to 10,000 feet.

This short sketch of the climate of Manitou will show that it has no claim to perfection, but that none of the seasons are so bad as to necessitate removal of the invalid to a distant locality.

The cases to which I have alluded as having come under my personal observation are the following.

1. C. D——, aged twenty-two, a native of New York, belonging to a consumptive family, came to me in August, 1868, on account of an attack of hæmoptysis, which had occurred already several times during the preceding three years which he had spent at different places of the Riviera, at Cairo, and at Algiers, where he had derived benefit for the time, which was lost again during the spring and summer. He was emaciated, weighing only 8st. 5lb., had dulness and rhonchi over the upper part of the right side, from above the clavicle to the fourth rib in front, and to the middle of the scapula in the back, the left side being likewise not quite free. After the cessation of the hæmoptysis, under the influence of rest and an emetic, he remained weak, with a rapid pulse, but free from pyrexia. Under these circumstances I advised him, instead of migrating from one winter health-resort to another, to settle somewhere in an elevated region, and I mentioned specially to him Jauja, in the Peruvian Andes, or the higher regions of Mexico, or, perhaps, Colorado, of which I then had only heard as a new mountainous region, with a good climate and the opportunity of settling. I had not heard of this gentleman till he consulted me a fortnight ago for some digestive trouble. On examining the chest I found the left side perfectly natural, the upper part of the right side flattened, but the percussion sound only slightly less sonorous, and the inspiration somewhat feeble, with prolonged expiration, and no rhonchi. He had been free from cough for five years, and weighed 10st. 2lb. He said that he had spent, after having left me, six months at Jauja, and a year and a half between Manitou, Colorado Springs, Denver, and the higher regions of that neighbourhood. He had improved at Jauja, had had congestion of the lungs in the spring of 1869 at Lima, but no return of hæmoptysis, and had lost his cough entirely, and gained strength and weight, at Manitou and Colorado. The lungs had given him no trouble since.

2. A. F——, aged twenty-four, a native of California, consulted me in 1871 on account of chronic phthisis. He had lost his mother and two brothers from phthisis, and had twice had hæmoptysis in 1868; he had spent the winter and spring of 1868–69 at Madeira without losing his cough; he went in the summer of 1869 to Canterets, and again for the winter and spring to Madeira; in the summer of 1870 he went to Bagnères de Bigorre and Biarritz; and in the winter of 1870–71 to Pau. He had, in the beginning of July, 1871, much cough and greenish expectoration, only occasional elevations of temperature, a rather rapid pulse (85 to 95), was emaciated (9 st. 4 lb.), had dulness and mucous rhonchi over both apices; he felt very weak, especially in summer, and had no appetite. On the whole, he was better on dry, cold days, and had been better in the Pyrenees than at Madeira. I advised this gentleman likewise to seek for a permanent settlement, with some occupation, in an elevated part of his own country, California, or in the Peruvian Andes, or in Colorado, advising him out-door life as much as possible, camping in tents during the summer, if this could be arranged under medical superintendence, recommending at the same time frequent meals, with a large proportion of milk. In December, 1871, I heard from this gentleman that he had much improved on the mountains of California during the summer and early autumn, and that he was starting for Colorado for the winter. After an entire silence from that time, A. F—— made his appearance, by a strange coincidence, on the same day with the former gentleman, to introduce a relative, in perfect health himself. After having led an out-door life for nearly three years, including fifteen months at and near Manitou and Denver, he had not only lost his cough completely, but had gained 24 lb., and had settled near Richmond, in Virginia. The examination of the chest showed only flattening with slight change of percussion-sound on the upper part of the left side, with somewhat indistinct inspiration murmurs, and rather loud expiration, but no rhonchi. The right supraclavicular space was likewise less sonorous, but there were no rhonchi.

I have met with several other persons who have ascribed their recovery to a long stay at Manitou and in the neighbourhood.

As to the nature of the cases suitable for Maintou, I should say that the cases of chronic catarrhal phthisis (cases which Niemeyer would have ascribed to chronic catarrhal pneumonia, which Addison used to call chronic pneumonic phthisis), if not too far advanced, would derive most benefit.

Individuals who feel better in a dry cool air, who cannot bear great heat, especially moist heat, or dampness in general, whether cold or warm, and those who are apt to feel bilious or sleepless on the seashore, while they feel well on elevated inland places, are particularly suited to a climate like Manitou. Those, on the other hand, who cannot sleep and eat on mountains, while they feel specially well on the seashore, who cannot stand cold even without wind or moisture, lose their sleep and appetite in winter, while the greatest summer-heat seems to give them life, increasing their appetite and body-weight, such constitutions ought to avoid mountain health-resorts of great elevation, and select warmer and lower regions. Those, again, whose happiness is intimately bound up with social pleasures, who are fond of great comfort and choice cooking, are, for psychical or social reasons, likewise, as a rule, less adapted to mountain resorts than those who like a certain amount of roughing.

The tendency to hæmoptysis ought to be no obstacle in the majority of cases. I mention this particularly because it has often happened to me, and again quite lately, that medical men have objected to elevated regions on account of that supposed tendency to hæmoptysis. I have endeavoured to show on former occasions that this fear is rather imaginary.[2] On the coast of Peru, where hæmoptysis is frequent, and where it is often the first sign of consumption, the removal to an Andine valley, especially Jauja, between 10,000 and 11,000 feet above sea-level, is regarded as an almost certain cure. Mr. Solly, in a recent letter to me, likewise mentions, as his experience, that the tendency to hæmoptysis is by no means increased, but rather checked, by the climate of Manitou, and the two cases mentioned above corroborate his view.

Complication of asthma with chronic phthisis is also by many physicians regarded as forbidding high elevations, but this is not in accordance with my experience. Asthma is set up by such heterogeneous causes that it is rarely possible to say beforehand which climates will agree with asthmatic patients and which not, but I often come in contact with four different asthmatic persons who feel always best at elevations above 5000 to 7000 feet. The cases which I regard as most unsuitable are the laryngeal class, troublesome everywhere, but less so at all events in warm and somewhat humid climates.

Careful hygienic and dietetic management is in all climates an essential condition to recovery; time, not reckoned by months, but by years, is always required for the cure of consumption once developed, and Manitou cannot dispense with these conditions, but the whole locality offers opportunity for settling there altogether, and for varying the residence from cooler to warmer, and from higher to less elevated regions. At present there are hotels as well at Manitou as also at Colorado Springs and Denver, which latter, though more exposed to wind, yet possess good qualities for less delicate patients; and higher up in Manitou Park is likewise a tolerable hotel, and still higher in the mountains, between 7000 and 9000 feet, there are farms which give shelter to those who will not camp out in tents.

Grosvenor-street, W.

THREE CASES OF TRAUMATIC TETANUS TREATED WITH CHLORAL HYDRATE; RECOVERY.

BY JASPER CARGILL, L.R.C.P. LOND., &c.,
GOVERNMENT MEDICAL OFFICER ST. ANDREW, JAMAICA.

THE successful termination of so fatal a disease as traumatic tetanus is of itself a matter of no little interest; but when the physician can, with any shadow of reasoning, ascribe the happy result to medicine, the interest becomes one of deep importance, both to the medical and non-medical public. In submitting the following cases for insertion in THE LANCET, I do not think any comments are necessary, inasmuch as the facts speak for themselves.

While in charge of the Parochial Hospital, St. Thomas-in-the-Vale, between the years 1862 and 1868, several cases of traumatic tetanus came under my care, with the unhappy result of death in every case. The treatment adopted embraced opium, Calabar bean, chloroform, Indian hemp, bromide of potassium, &c. In 1869, I was transferred to the Liguanea plains, St. Andrew, as Government Medical Officer, since which period I have had four cases of traumatic tetanus to treat. The first of these was that of a jockey, with extensive laceration of the foot and ankle, having been thrown from a horse. The boy got tetanus on the fifth day after the injury. He was treated with Calabar bean, with at first well-marked temporary relief, but on the seventh day of the disease he died in great agony. Then came three successful cases, which are briefly as follows.

CASE 1.—A constable, aged twenty-eight. Injury: laceration of soft parts of jaw and alveolus, in trying to punch out a decayed tooth with a horseshoe nail. This was a very severe case, and several medical men saw it with me. Opisthotonos was so well marked that I was obliged to place pillows under the spine to prevent injury to the neck. Lock-jaw during the first four days rendered it necessary to resort to nutrient enemata. Temperature went as high as 108° F. The treatment consisted of chloral hydrate, and no other medicine, after clearing out the bowels with calomel and castor oil. The doses varied from ten to thirty grains. The attendants, who witnessed the marked effects of the remedy, knew well when to renew each dose. The man was, in fact, kept constantly under the drug more or less. The active treatment lasted ten days, but for several days during convalescence a spasm would now and then return, which was at once relieved by a dose of chloral.

CASE 2.—A boy, aged seven. Injury: While walking on the grass, barefooted, a large number of cactus thorns broke into the soles of both feet. Tetanus quickly set in. When sent for I was attending a lady in her confinement, but a medical friend saw the case for me the first day, and gave purgative medicine treatment. I extracted as many of the thorns as possible, and applied tallow poultices to feet. There was retention of urine in this case, which rendered the use of the catheter occasionally necessary. I gave six grains of chloral hydrate, so as to keep the child under the influence of the drug almost continuously. There was opisthotonos and stiffness about the jaws. The case yielded to treatment in three weeks.

CASE 3.—A white man admitted into my small-pox hospital on December 22nd, 1874, on the fourth day of eruption, which proved to be confluent small-pox. His feet became dreadfully sore, and the cast of one came completely away, leaving a raw spongy surface, exceedingly painful. This I dressed with oxide of zinc. On January 6th, 1875, well-marked tetanus set in, with rigors. The spasms were characteristic and frequent, accompanied with an involuntary noise from the throat, as if the lungs had been suddenly pressed. No lock-jaw, but decided opisthotonos. Commenced the chloral treatment at once, but the weak condition of the patient rendered it necessary to administer the drug with great caution, and combine a large amount of brandy and ammonia. I thought the case a hopeless one, but on the 10th January the tetanic spasms began to subside, and the raw surface on the feet commenced to heal. The man continued under treatment until the 5th February, having gone through a severe attack of confluent small-pox and tetanus. There is no doubt in my mind that chloral saved his life.

[2] On the Treatment of Phthisis by Prolonged Residence in Elevated Regions; Medico-Chirurgical Transactions, 1869, vol. liii., p. 32. On Hæmoptysis as a Cause of Inflammatory Processes and Phthisis; Clinical Society's Transactions, vol. ii.

THE HYPODERMIC TREATMENT OF BRONCHOCELE BY ERGOTINE.

BY J. G. SINCLAIR COGHILL, M.D., F.R.C.S. EDIN.,
PHYSICIAN TO THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, VENTNOR.

THE therapeutic uses of secale cornutum are being rapidly extended from the comparatively humble and limited rôle to which, in obstetric practice, this drug was originally confined. Its marked influence on the contractile elements of the tissues of the vascular system has led to its being placed in the first rank of hæmostatic remedies. Again, indirectly, from its controlling power over the supply

of materials through the circulation, its effect on the processes of nutrition furnishes indications for a much wider range of employment.

Mrs. J——, a lady in her forty-ninth year, came to Ventnor in June of last year to consult me about an enlargement of the thyroid gland, which occasioned her great and increasing physical distress. She had at various times been treated by the different preparations of iodine, both internally and locally, with no effect, and had quite recently gone to Edinburgh, where the removal of the tumour by a surgical operation was urged as the only means of relief. She was a native of a district in the north of England where goitre is notoriously endemic, and, indeed, several members of her own and her husband's family have been similarly affected, but to a less degree fortunately. The enlargement of the gland, it seems, had been noticed as soon as menstruation was established, and she thought she had remarked a distinct increase of size in the tumour at each period, but also particularly during each of her three pregnancies. The menstrual flow has always been very profuse, and at intervals within three weeks.

When I first saw her the amount of exophthalmos was very striking. The bronchocele filled up the whole space between the chin and clavicles, being especially prominent below and on the right side. The tumour felt exceedingly hard and tense, and its weight caused additional distress to the patient. An exploration with the needle showed that it was not cystic, but fibro-vascular in character. The effect of the pressure of this mass on the trachea and œsophagus threatened to be most serious, and kept the patient in a state of great alarm. It was impossible for her to swallow any solid food except in the smallest morsels, and washed down with fluids. The slightest exertion brought on violent attacks of dyspnœa.

As the usual remedies had been tried in vain, and the patient had positively declined a surgical operation, I determined to endeavour to reduce the tumour by injecting a solution of ergotine hypodermically. This treatment of tumours was, I believe, first suggested by Prof. Hildebrandt of Königsberg, and used successfully in a fibro-myoma of the uterus. He employed an injection of a watery solution of three grains of ergot in glycerine. I used in the present case the ergotine discs of Messrs. Savory and Moore, which are most convenient, and thoroughly reliable. In all sixteen injections were made over the tumour, and as closely in contact with its substance as possible. I commenced with one disc equal to one third of a grain, and increased the amount gradually to three discs, equal to one grain of ergotine. They were simply dissolved in distilled water, and injected at blood heat. The first four injections were made daily, the next four at intervals of two days, and the others at longer intervals, the whole extending over two months.

The results were soon apparent, and were most satisfactory. The tension and dense consistence of the tumour first of all diminished rapidly, with great relief to the dyspnœa and dysphagia. The whole mass became gradually reduced in size, until the left lobe, which had always been the least, returned to its natural size, while the right and middle lobes certainly returned to half at least of their former dimensions. It is to be noted that although the injections were at first and for the most part made over the right or larger side of the tumour, the left and central portions became much more rapidly and to a comparatively greater extent reduced in size. The nutrition of the entire body seems also to have been influenced to some extent by the remedy, for although the patient was by no means obese, she lost fourteen pounds in weight during the two months, but with no loss of strength or other deterioration of health. It is singular also that the menses did not appear for six weeks during the hypodermic treatment, thus missing one regular period, an irregularity never previously experienced by the patient, and when they did return, they were much less in quantity than usual, although large doses of the fluid extract of ergot had been previously given internally without producing any effect whatever on the discharge.

Although the patient was of an extremely nervous and irritable temperament, the general effects of the drug were at first very slight, but after a time there was observed, immediately after each injection, considerable vascular excitement, with flushing, pain and throbbing in the head. I have since quite recently heard that there has been no return of the enlargement, and that the patient is otherwise keeping quite well.

We have undoubtedly in ergot and its active principle ergotine a means of most powerfully affecting the vascular system and its contents. It is to be observed that, as a hæmostatic, its influence seems to be much more potent when introduced directly into the blood through the tissues hypodermically, than when it enters indirectly into the system by the stomach. It is but reasonable that such should be the case, if the object be to bring the remedy and the tissues to be affected into the most complete and rapid contact. Certainly in hæmoptysis it is much more efficacious when used hypodermically than when administered by the stomach. It is more than probable that its chemical instability is such that it undergoes some change of composition in the process of digestion, which may entirely alter its character, or at least seriously deteriorate its therapeutic properties. It is only in this manner we can explain the marked difference in results between the two modes of administration in question.

Ventnor.

ABORTIVE TREATMENT OF BUBO.

BY SURGEON J. K. CONWAY, M.D., R.N.

(*Communicated by the* DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.)

As I have not seen any record lately in the medical journals of the successful treatment of bubo on the abortive system, I beg to give some experience of it gained during service at the Cape of Good Hope Royal Naval Hospital under Fleet-Surgeon Breen's direction during 1874-5-6.

The fleet-surgeon adopted M. Malplaquet's discutient plan, and put it into practice as follows:—The cuticle over the swelling having been removed by blistering fluid to the extent of a shilling piece, a scrap of lint steeped in a saturated solution of perchloride of mercury was applied to the raw surface, with a linseed poultice over all, and left for about twenty-four hours. When again seen a greyish eschar was found to have formed, and we had occasion to notice that the firmer was this eschar the more certain and speedy was the good result. After two or three days' poultising a clean, shallow, granulating depression only remained for treatment, and readily healed by simple means, the swelling itself having meanwhile quite disappeared.

Twelve cases of inguinal bubo, ten of which were accompanied by soft sores on the penis, were thus treated, with the best results in all. Such being the case I am encouraged to bring this mode to the prominent notice of the profession through the valuable columns of THE LANCET. I must add that except sharp pain of short duration, immediately following the application of the mercurial solution, no inconvenience was complained of.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

FRACTURE OF THIGH IN A CHILD, WITH RECTANGULAR ANCHYLOSIS OF KNEE-JOINT; TREATMENT BY RECTANGULAR EXTENSION; GOOD RESULT.

(Under the care of MR. LAWSON.)

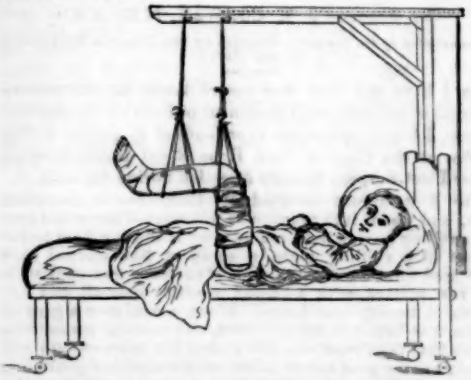
THE following case illustrates a mode of treating a complicated fracture of the thigh in a little boy. The circumstances of the case were these:—

E B——, aged five, had suffered from strumous disease of the left knee joint, for which he was sent to the Margate Sea-bathing Infirmary. Under the influence of the sea air

and the treatment adopted the disease in the joint appears to have been cured, and the child returned home, but with a rectangular anchylosis of the knee-joint. After he had been home about a fortnight, using his crutches to enable him to get about, he fell, and fractured the left femur about two inches above the condyles. He was then brought to the Middlesex Hospital.

The house-surgeon, on examining the child, at once detected the nature of the accident; but the leg being flexed by fibrous anchylosis at right angles to the thigh rendered the case a difficult one to treat. There was considerable displacement of the fractured ends, but the bent condition of the leg made it impossible either to apply a long splint or to extend the fracture by means of a weight run over pulleys at the end of the bed. He accordingly put up the fracture in two side splints extending upwards from the knee on the outer and inner sides of the thigh. This plan of treatment, however, was not successful, as by it the riding of the bones was not prevented, and their ends could not be kept in anything like a proper position.

Mr. Lawson, on seeing the child, then suggested the method of slinging and extending the thigh which is shown in the diagram, which was well carried out by Mr. Walker, the house-surgeon.



A wooden gallows was fixed firmly to the head of the bed, and along the upper surface of the beam, which projected over the patient, was a deep groove, through which ran a cord which passed over two pulley-wheels, as shown in the woodcut; over the anterior wheel the cord passed to the thigh, while over the posterior wheel the cord ran to the weight which acted as a counterpoise to the thigh, and kept up continued extension. A leather collar was then fastened to the thigh close to the knee-joint, just free of the fracture, and to this collar were affixed four cords, which were attached to a hook to connect them with the cord which passed over the beam. Two small side-splints were applied to keep the thigh steady, and prevent it from swinging at the point of fracture. A leather splint was then made to support the lower leg, which was fastened by another cord to the end of the projecting beam. Under this treatment the child made an excellent recovery, and complete union of the bones in good position resulted. Mr. Lawson proposed, at some future period, to forcibly extend the flexed knee-joint, and break down the bands of fibrous union. The idea of extending a fractured thigh by placing the limb at right angles to the trunk is not new, for the practice, Mr. Bryant says, has been followed at Guy's, and he describes the method there adopted with great success, and illustrates his description with a woodcut. The novelty in this case was the extension over a gallows by weights, and the peculiar condition of the thigh which rendered this plan of treatment necessary.

LAMBETH INFIRMARY.

EXCISION OF ELBOW-JOINT.

(Under the care of Mr. HAMERTON.)

THE following case is interesting, whether we consider the cause of the joint affection or the result of the operation.

J. H——, aged thirty-five, a labourer, first came under observation in the beginning of the year 1875, with acute rheumatism, brought on by exposure. He got well of this, with the exception of the right elbow-joint, which continued swollen, stiff, and painful. Rest and blisters were ordered, with little success. The joint was then put up in a gum-and-chalk bandage, which afforded some relief, and the patient left the infirmary saying he would like to get into one of the hospitals. The next time he was admitted into the infirmary was in June, 1876, the joint being then more swollen, and grating distinctly on manipulation. Repeated blistering and a fixed dressing were again tried, with the object of setting anchylosis in the flexed position.

On Oct. 28th, 1876, there being no improvement whatever from the passive treatment, and the arm being almost utterly useless to him, Mr. Hamerton determined to operate. Chloroform having been given, a free vertical incision was made with its centre over the olecranon; the triceps divided into two portions, an inner and an outer, which were then dissected outwards over the condyles; the olecranon cleared and divided transversely with the saw. The lateral ligaments were next cut through, and the lower end of the humerus freely exposed, and then removed on a level with the condyloid projections. The ulna was divided above the attachment of the brachialis anticus to the coronoid process, and the radius sawn through on the same level. The ulnar nerve did not come in sight at all. When all bleeding had ceased the cavity was packed with strips of lint, and the edges of the incision brought together with silver-wire sutures. The arm was then placed on a pillow, in an almost completely extended position, with sandbags to keep it steady. Temperature 98·4°. A hypodermic injection of morphia was given. The cartilage was eroded from the pieces of bone that were removed.

29th.—2 A.M.: There had been some vomiting and slight oozing; the pulse was rapid. Temperature 104·6°. He complained of pain. Morphia injection repeated.

Next day he was progressing favourably, and took his nourishment well. Temperature 102°.

On Nov. 3rd the arm was put up in one of Mr. Mason's splints, sutures removed, and passive movement commenced. Temperature 100°.

On Nov. 7th he sat up, and the arm could be flexed, extended, supinated, and pronated with ease. Temperature normal.

Henceforth he mended rapidly. On Nov. 14th the splint was left off, and the patient commenced to move the arm himself. One day it was found that he had contrived a novel and very effectual method of so doing by means of a fourteen pound weight attached to a piece of string. When discharged on Feb. 13th, 1877, he could perform the acts of flexion, extension, supination, and pronation almost as completely as with the sound arm, and it is not perhaps too much to say that this favourable result was mainly due to the use of Mr. Francis Mason's splint. The method of dividing the triceps suggested by Mr. Maunder is certainly an important factor in retaining the power of active extension after the operation.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.

CASES OF SQUINT; OPERATION; REMARKS.

(Under the care of Dr. BELL TAYLOR.)

FOR the notes of the following cases and remarks we are indebted to Mr. Walter Beever, clinical clerk.

In operating recently in some cases of squint, Dr. Bell Taylor took occasion to make some apposite remarks on the nature and treatment of this affection.

A boy, aged eleven, was admitted, who had squinted for seven years, and although the deformity was great, the mother stated that it was not so bad as it had been. When it was suggested that the sight was weak, the mother at once denied that the vision was in any way affected. But Dr. Taylor alleged that he was sure that it was bad, because—firstly, the squint had become one sided, "monolateral," as it is called; secondly, it had lasted a long time; and, lastly, because, according to the mother's statement, it was worse formerly than now. At first, no doubt, the squint was "alternating"—that is, it affected sometimes one

eye, sometimes the other; and although the boy did not use both eyes at the same time to produce binocular or stereoscopic vision, the sight of each was preserved by alternate practice, while the muscular effort made to see with the squinting eye rendered the deformity at that time much more manifest. The squinting eye was now barely influenced by the convergence which accompanies the endeavour to see near objects, but wandered to and fro in a purposeless sort of way, and was therefore in occasional accord with its fellow. Under such circumstances, the friends are always apt to congratulate themselves that the child has nearly grown out of his squint, and are dubious as to the necessity for any operation. But growing out of a squint really means growing blind in one eye.

On examination it was found that the boy was unable to decipher Jaeger's largest test type (letters an inch long) with the squinting eye. The brother of this patient, aged six years, was similarly afflicted, only, in his case, the right eye was affected instead of the left. When the left was covered, and he was requested to look straight with the squinting eye, he did so; but then the left eye squinted to the same extent as the right had previously done. This, Dr. Taylor said, was the first stage of squint, and, if neglected, became worse. This boy could not see with both eyes at once, because that would involve double vision; but he could see well enough first with one eye and then with the other, and this alternate use of the eyes would for a time preserve the sight. If such cases were not treated, one eye sooner or later squinted permanently, and was definitely excluded from the act of vision, and from that moment sight would begin to fail: first, the eccentric portions of the retina lost their sensibility, then the yellow spot deteriorated, and, lastly, the inner portion failed likewise.

If one of the eyes be pushed ever so little on one side, two images will immediately be seen—a true image and a false one. The deterioration of sight which takes place in squint-eyed persons is simply due to the constant negation of the pseudo-image of the squinting eye by the brain. We only see what we look at, we only hear what we listen to. The brain has a horror of double images, and the persistent exercise of this mental act of suppression causes in time loss of function, "amblyopia from exclusion," or "ex anopsia," as it is termed, and is followed in due course by more or less atrophy of nerve-tissue and fibrous degeneration of the muscles involved.

These facts are well illustrated by the elder of these two boys. It was pointed out that if this lad tried to fix an object with the squinting eye, the eye oscillated—he was, as it were, trying to find a healthy spot of retina on which to focus the object. When pressed to state what the object was, he made a final effort, but instead of looking straighter, he squinted worse than ever. Why was this? He was simply trying to bring the last remnant of healthy tissue to bear upon the object. When a squint alternates, sight may be restored and the squint cured perfectly; when it has become monolateral, the squint may be cured and the sight vastly improved, if the patient be seen within a reasonable time; but in advanced cases such as this, restoration to sight is almost hopeless, and all that can be done is to rid the lad of his deformity.

ROTHERHAM HOSPITAL DISPENSARY.

TUMOUR IN THE SPINAL CORD; AUTOPSY.

(Under the care of Dr. SHEARMAN.)

FOR the following notes we are indebted to Mr. W. M. Jones, house-surgeon.

W. B——, aged thirty-one, married, brass-turner, was admitted on June 30th, 1876. He gave the following history:—Both parents and all his brothers and sisters are alive and well; his two children are also well. Twenty years ago had "slow fever," and nine years ago gonorrhœa, but no sore. Always healthy and sober. Just before Christmas, 1875, on attempting to rise after sitting for some time in a hot theatre, he experienced great difficulty in getting on to his legs, and had severe pain in the lumbar region. When he got outside he tried to pass water, but was unable to do so; he succeeded, however, when at home. After this he had no difficulty of micturition, but the pain in his back continued, with intermissions. About this time, too, he became impotent. In May, 1876, he noticed a peculiar stiffness affecting both his legs, but worse in the left, and his gait became very unsteady, like that of a drunken man. His voice also was uncertain, and he found difficulty in forming his words. He gradually became worse, so that he had to leave off work at the beginning of June, 1876. His appetite was always good, and his bowels generally costive.

On admission he was a well-nourished, dark, melancholy-looking man. He could walk with the help of a stick, but he staggered very much. He was quite unable to stand with his eyes shut. When walking his feet shuffled about a good deal, and he was obliged to look where they were. His legs were slightly wasted, especially the left one, and there was considerable diminution of both motor and sensory power. His arms did not seem wasted, but he could not keep them steady, and the power of grasping was much diminished in both hands. There was slight nystagmus, and the voice was hesitating and jerky. He complained of cramps in his abdomen and legs, which prevented him sleeping. He was in a very low and desponding state, and frequently burst into tears when spoken to. Urine albuminous. The case was thought to be one of insular sclerosis of the cord. He was ordered five grains of compound soap pill at bedtime, and a mixture containing iron and iodide of potassium; but as he got worse, phosphorus was given for some time with no better result. The stiffness in his legs became more frequent and more painful, and his mental condition grew worse. He sent for the house-surgeon at all hours to ask if he would get better, or to say that he wished he were dead. During August he kept his bed regularly, and had frequent attacks of retention. In September he made a determined attempt to strangle himself with a handkerchief, and, as he threatened to do it again, he was sent to the county asylum. In December he was brought home, and placed under the care of his club doctor.

On January 1st, 1877, his death was accidentally heard of, and consent was obtained from his wife for a partial post-mortem, which was made on the following day.

The body was extremely emaciated, and there were several sloughing bedsores. On opening the head, the dura mater was seen to be very much congested, and contained a large quantity of fluid full of flakes of lymph, which freely covered the pia mater. All the ventricles contained a good deal of fluid, but the brain itself appeared healthy. About six inches of the cord from the lower dorsal region was obtained. This appeared swollen, and on section a large tumour, about three inches long, was seen growing from the inner side of the dura mater on the left. The cord appeared very much compressed, as the growth was about twice its thickness. Under the microscope it was seen to be composed of numerous small cells like leucocytes, with a few spindle and myxomatous cells. The nerves to the left side passed through the growth, and were almost entirely absorbed. Dr. Moxon, who kindly examined a specimen, remarked that "the large proportion of lymphoid elements rendered the substance quite like chronic inflammatory deposit, except for the few spindle and stellate cells."

ROYAL INFIRMARY, EDINBURGH.

SURGICAL CASES.

(Under the care of Professor SPENCE.)

FOR the following notes we are indebted to Mr. T. F. Chavasse, M.B., house-surgeon.

Large Myxomatous Tumour in a Child.—C. J. C——, aged ten months, was admitted on March 30th, 1877. When the child was born, a tumour was found to be attached to the lower part of the back, the size of an ordinary hen's egg. The growth continued to enlarge until the date of admission. An examination revealed a large tumour suspended by a pedicle from the lower part of the sacrum. The shape of the mass was somewhat reniform, hanging in the median line, and measuring six inches in length at its widest part, and four inches broad. On palpation a feeling of fluctuation was imparted to the hand, but at several points hardish nodules could be distinguished. Three small nævi were

situated on the surface of the skin covering the growth. The general health of the child was good.

On the 4th of April, Mr. Spence removed the tumour, which was found to be connected with the coccyx, and extending into the ischio-rectal fossæ, more especially into the left one. In order to complete the operation, it was necessary to take away the cartilaginous tip of the coccyx. The tumour proved to be a myxoma, with several masses of fat imbedded in the gelatinous matter. The wound healed without a bad symptom, and the patient was dismissed cured on the 4th of June.

Sublingual Epithelioma.—J. W——, aged thirty-six, admitted with sublingual epithelioma of three months' duration. The size of the growth was that of a hazel-nut, situated to the right of the frenum linguæ, and extending backwards as far as the first molar tooth; the central portion of the epithelioma had ulcerated. There was no connexion with the periosteum of the inferior maxilla, and no glandular enlargement. Removal was effected by means of the thermo-cautery. As the instrument was at first used too hot, there was considerable hæmorrhage at the time of the operation. Thirty hours afterwards bleeding again occurred, and some five ounces of blood were lost; this was repeated, but in a minor degree, on the third day following the operation. The application of a solution of equal parts of perchloride of iron and glycerine proved successful in stopping the hæmorrhage on both occasions.

The patient was dismissed at the end of three weeks perfectly well, but with some difficulty of pronunciation.

Lateral Pharyngeal Abscess.—S. R——, aged sixty-eight, was admitted complaining of difficulty in swallowing food and of breathing. These symptoms were first noticed three months previously. An examination of the fauces showed a hard, somewhat roundish swelling, as large as a small apple, projecting inwards from the right side, and occupying the space behind the anterior pillar of the palate. The patient complained of occasional pain at the back of the neck, but there was no sign of caries of any of the cervical vertebræ. The tumour did not pulsate. Mr. Spence aspirated the swelling, and half an ounce of pus was evacuated. Two days afterwards, as the abscess had refilled, a small opening was made at its lowest point, and its cavity washed out with a weak solution of carbolic acid, injected through a gum-elastic catheter. This injection was repeated once daily for ten days, when the wound had so far healed as not to admit the point of a small catheter. Complete closure took place two days after, and the patient was dismissed cured.

Reviews and Notices of Books.

Smellie's Treatise on the Theory and Practice of Midwifery. Edited, with Annotations, by ALFRED M'CLINTOCK, M.D., LL.D., F.R.C.S.I., &c., Hon. Fellow of the Obstetrical Societies of London and Edinburgh and of the American Gynæcological Society, Ex-Master of the Dublin Lying-in Hospital. Vols. I. and II. The New Sydenham Society of London. 1876–1877.

THE New Sydenham Society has done nothing more commendable than to produce the work which we are now about to notice. The art of midwifery has been considered too much as something apart from the art of medicine and surgery. This arose very much from the circumstance that for thousands of years it had been chiefly in the hands of midwives—a fact which finds frequent and curious illustration in Smellie's works. The perusal of his cases shows that in most of them he was sent for by the midwife in attendance. Sometimes he was not allowed even to examine the patient, and sometimes, though allowed to examine her, he was not permitted to carry out his own suggestions. On yet other occasions, when he did have his own way, it was at some risk of his personal liberty. Once, he tells us, he was called at night to a labour case in one of the narrow lanes in Broad-street, St. Giles, where the arm of the child presented. "When I came in, the room was crowded with the pupils to the number of twenty-eight. Such a number going in had so alarmed the lane that a great mob assembled, and began to exclaim 'that we were trying practices.' Some of the women also told us that the parish officers were sent for, who at that time were glad of showing their authority. On these accounts I was obliged to deliver the woman in a hurry. The child was alive, and when this was told the mob, and that the woman was also safe, they all dispersed." Operative midwifery, up to the time of Smellie, and still more before that of the Chamberlens, was so poor in resources, and withal so rough in its methods, that man-midwifery was in bad reputation. Perforation of the head of the child was the short and fatal practice in difficult cases where the child could not be turned. This expedient, says Smellie, produced a general clamour among the women, who observed that when recourse was had to the assistance of a man-midwife, either the mother or child or both were lost. The discovery of the forceps by the Chamberlens went to the root of this discredit; but it was kept by them as a secret, and their contemporaries and immediate followers had to devise forceps of their own, which were seldom used with success.

In these circumstances Smellie rose to influence as a teacher of midwifery. He came to London in 1839, after practising in Lanark without much success from the year 1727. We cannot pretend here to give much account either of his work or of his books. Thanks to the New Sydenham Society it is unnecessary to do this, as they will now speak for themselves to a larger number of readers than heretofore, for they are not only to be published in modern form—the first and second volumes are already before us,—but they are published with annotations by an obstetric physician of great authority, Dr. Alfred H. M'Clintock, ex-master of the Dublin Lying-in Hospital. This arrangement has a double advantage. It supplies the reader not only with Smellie's Midwifery, systematic and clinical—a mine in itself—but Smellie's midwifery in juxtaposition with the midwifery of 120 years later. How few authorities in medicine could be so placed without appearing to disadvantage. Smellie appears only the greater and the wiser for the comparison, because we see how many of the best parts of modern doctrine and practice he had anticipated. He was the Sydenham of midwifery, for although it was a chief part of his glory to have studied deeply and soundly the mechanism of labour as a natural process, and in that study to have laid the ample foundation of the highly finished art of midwifery as we see it practised by the best obstetricians of the present day, we also see evidence in every one of his "cases" of shrewd and sagacious medical views, showing that his great manipulative faculties were governed and controlled by good judgment, physiological considerations, and that respect for nature which is a characteristic of all great physicians. To our mind there is as much to instruct and admire in the way in which Smellie temporised in a tedious labour—discouraging fussy people; giving "nourishing broths"; ordering the patient to be put to bed and kept quiet, and have once or twice five grains of the pilulæ saponaceæ—as in the way in which he showed how many positions of the child might be rectified, and the forceps so applied as to be at once harmless and helpful. Most authorities would admit that in the hands of Smellie instrumental midwifery was more advanced than in the time of Denman, and yet he is careful to let us know that he never used instruments unnecessarily. Though he improved upon Chamberlen's forceps—in fact, invented the long forceps with a lateral curve, "for taking a firmer hold of the head in the pelvis when high,"—he does not seem to have used them often except when the head was advanced in the pelvis. In short, he was a model practitioner in midwifery, whose influence

grows rather than diminishes, and whose works will be found to contain the germ of most of our best practice and doctrine.

Dr. McClintock deserves thanks for undertaking a very difficult duty, and praise for the way in which he has discharged it. He has not allowed his reverence for Smellie to take the form of indiscriminate submission to his teaching; though, occasionally, when he differs, we are disposed rather to agree with Smellie. But he has fairly placed alongside of Smellie's principal views those of modern authorities, including his own, derived from an experience altogether exceptional, and has produced a joint work without which no obstetric library will be complete.

An Introduction to Practical Histology. By GEO. THIN, M.D. Pp. 146. London: Baillière. 1877.

THIS work does not pretend to give an exhaustive account of any of the tissues or organs of the body, but only describes the modes in which they should be treated in order to render the details of their structure apparent. It will be found useful by those who have already obtained some familiarity with the use of the microscope, and who are desirous of acquiring a knowledge of the more important methods that have been recently adopted with the object of displaying minute details of structure.

A remarkably good account is given of the several kinds of staining agents, with the strength of the several solutions, and the length of time the sections should be exposed to their influence. Amongst those named are Müller's fluid, Schultze's palladium fluid, Ranvier's picrocarminate of ammonia, and indigo-carmine, Boehmn's and Kleinenburg's hæmatoxylin fluid, Fischer's eosine fluid, and Sankey's aniline blue-black fluid. Dr. Thin is well known to have published the results of his careful researches on the connective tissues, and especially on tendon, and on the cornea and retina; and, as might be expected, a good condensed account of these researches is here introduced. The directions given to the student seem to us to be correct, but are rather too much condensed. Why should the thymus gland be mentioned specifically and the thyroid omitted? The following extract will illustrate Dr. Thin's mode of teaching:—

"To see the ganglion cells of Auerbach's plexus, cut out a piece of the small intestine of a newly killed guinea-pig, distend it moderately with air between two ligatures, and place it in a ¼ per cent. solution of chromic acid. Change the fluid daily for some days, increasing the strength of the solution after the third day to ½ and finally to ¾ per cent. Within a week it can be examined. Cut open the intestine, spread it out on a piece of cork with pins, keeping it moist with the solution, and strip off layers from within outwards. The ganglion cells are found between the muscular layers."

The mode of demonstration of ganglion cells by chloride of gold is elsewhere described.

Nouveau Dictionnaire de Médecine et de Chirurgie Pratiques. Tome XXIII. J. B. Baillière.

THE principal articles in this volume are—Molluscum, by Hardy; Monstruosity, by Verneau; Mort, by Dieulafoy, Tardieu, and Laugier; Morve (Glanders) and Farcy, by Tardieu; Muguet (Stomatitis), by J. Simon; Mucous Membranes, by Straus; Muscle, by Duval, Straus, and Le Dentu; Narcotics, by Hirtz; Nervous System, by Duval, Poinsot, and Labadie-Lagrave; Neuralgia, by Hallopeau; Neurosis, by Luton, &c.

Of these the two articles on Muscle and Nerves, of course, constitute the *pièces de resistance* of the volume. That on Muscle is preceded by an account of the minute anatomy and the physiology of that tissue, which, however, is not quite worked up to the present date, and is remarkable as ignoring, with the single exception of the words "sarcous elements and disks of Bowman" in parenthesis, the work of the earliest and of the latest English investigators on the tissue; though the former writer, undoubtedly, laid the foundations of our present knowledge, whilst the views of Mr. Schäfer are certainly more in accordance with microscopical observations than those of M. Rouget, whose doctrines of the spinal structure and mode of contraction of muscle, drawn from the analogy of the stem of the vorticella, and here given, has received no support from other observers. It is interesting, however, to notice that Rouget is led from his researches on the Vorticella to believe that the contracted condition of the stalk of that animal is due to the influence of elasticity, since it is an invariable concomitant of the death of the animal, whilst the activity of the muscular tissue is expressed by the uncoiling and elongation of the stem. Experiments that have been made to test the duration of contraction in muscle show that even the strongest persons cannot maintain voluntary contraction—such, for example, as holding the arm out at right angles to the body, or raising the heel by means of the gastrocnemius—more than thirty-three minutes, which, as Liégois has observed, is a point of some importance in practical surgery, as it enables true to be diagnosed from simulated contractions. The views at present held in regard to the existence of a "muscular sense" are fairly given. Reference is made to the experiments of Bernard, who showed, as Sir Charles Bell had, in fact, done before him, that section of all the cutaneous nerves did not interfere with the animal's power of locomotion, though, if the posterior roots of the spinal nerves were divided, which, of course, effected the division of the nerves both of cutaneous and of muscular sensibility, the movements of the animals became extremely unsteady. It is admitted, however, that great obscurity exists in regard to the nature and seat of the muscular sense. Thus Wundt believes that the seat of the muscular sense, or rather its *point de départ*, is not in the muscles themselves, but in the motor nerve-cells of the anterior cornu of the grey substance of the spinal cord, because, he observes, we have not only the sensation of a movement really executed, but even of one that is merely desired. Müller, Ludwig, and others regard the muscular sense as being only the conscience of muscular innervation, and reduce it to the faculty of appreciating accurately the intensity of the excitation which proceeds from the brain to provoke the movement required. Bernhardt endeavoured to determine the weight raised by a muscle stimulated to contract by faradisation through the skin, but found it was a much less accurate mode than when the stimulus was through the will. He therefore regards the sense of muscular contraction as a psychic function. He admits at the same time that sensory impressions originating in the soft parts, and in the articulations adjoining the muscles and the parts put in movement, powerfully contribute to complete the idea furnished by the other sources of the muscular sense. A recent experiment by Carl Sachs appears to demonstrate the possession of sensibility by muscle. He isolates a muscle in the frog in such a way that it is connected with the body by means of the nerve alone which supplies it. If now either the nerve or the muscle be excited by an induced current, general convulsions are produced of a reflex nature. The filaments in the nerve supplied to the muscle cannot, therefore, be all motor; some must be sensory or centripetal. Again, if to such a muscle ammonia be applied in a state of dilution so great that it is a stimulus to muscle but not to nerve, which is well known to be practicable, reflex convulsions can be induced, though the stimulus must here be the contraction of the muscular fibres acting on sensory fibres contained in the

nerve. The subject of muscular irritability is next considered, with the principal agents which exalt or diminish it, the experiments of Dr. Poore being particularly alluded to. The number of muscular poisons M. Duval considers to be greatly over-estimated, and discusses only the vegetable alkaloids, veratria, eserine, and digitaline. A section is devoted to the subject of muscular work. The muscular tissue of the heart and unstriated muscular tissue are treated of at considerable length, and a note is made of the time and mode of occurrence of cadaveric rigidity in the latter.

The Pathology of Muscle, by M. Straus, commences with a sketch of the immense strides that have been made since the time of Frank, owing to the labours of Lockhart Clarke, Luys, Vulpian, Erb, Mantegazza, Zenker, and others, and a just tribute is paid to the intelligence of Duchenne. Our knowledge, however, is still too fragmentary to admit of a rigorous classification of the diseases of muscle, which chiefly arises from the very intimate relations existing between muscle and nerve and their mutual reactions. We can here only mention the order given by M. Straus in his very able article, which is sufficiently suggestive:—1. General pathology of muscle. 2. General semeiology. 3. Affections of muscles consecutive to lesions of the central or peripheric nervous system. 4. Affections of muscles consecutive to general diseases (fevers, intoxications, cachexiæ, acute or chronic dyscrasiæ) 5. Idiopathic affections (non-traumatic), such as spontaneous myositis and pseudo-hypertrophic paralysis. 6. Therapeutic considerations. The surgical pathology of muscle is undertaken by another hand, M. Le Dentu, and includes luxations, ruptures, tumours, &c. The account of the different conditions of the muscles in paralysis of cerebral and of spinal origin is remarkably fully given, and embraces the principal results of the latest experimenters. We shall reserve our observations on the article "Nerves" for another occasion.

UNIVERSITY OF LONDON.

EXTRAORDINARY MEETING OF CONVOCATION: DEBATE UPON THE ACTION OF THE SENATE.

A LARGE number of graduates attended the extraordinary meeting of Convocation, held on Friday, the 27th ult. The meeting was summoned in compliance with two requisitions, each signed by twenty or more members of Convocation. In the unavoidable absence of Dr. Storrar, Chairman of Convocation, from indisposition, the chair was taken by Frederick John Wood, LL.D. The Chairman then called upon the clerk to read the section of the charter under which the extraordinary meeting was held, and also the requisitions above referred to. At the request of a graduate and of W. Shaen, M.A., who thought the names should have been published in the notice issued by the clerk, the names of the requisitioners were read.

The Registrar (Dr. Carpenter) laid on the table the minutes of the Senate, and on behalf of that body handed to the Chairman the following opinion, given by the law officers of the Crown, with reference to the recent action of the Senate:—

"We do not find in clause 21 of the charter any power given to interfere in any way with the powers given to the Senate of conferring degrees in medicine, and we therefore think that it will be competent to the Senate to grant degrees to women without the concurrence of Convocation.

"JOHN HOLKER
"HARDINGE GIFFARD.

"6, Crown Office-row, Temple, July 16th."

In reply to Dr. Curnow the CHAIRMAN said that no proviso was attached to this opinion.

On the motion of Dr. PEARSON IRVINE it was agreed that the motion No. 2 on the notice paper should take precedence of No. 1.

Dr. TILBURY FOX said—The resolution which I have undertaken to move is the following:—"That this House regrets that the Senate has, by adopting a permissive Act of Parliament (Act 39 and 40 Vict., cap. 41), without reference to or consultation with Convocation, materially altered the constitution of the University, and has thus practically superseded the privileges of Convocation." Now, no one present will attempt to question the purely legal right of the Senate to admit women to medical degrees, under the Act of last session, without the consent of Convocation, and in accordance with the opinion of the law officers of the Crown just presented to this House by the registrar. But that senatorial transaction assumes a very unfair character when the nature of the Russell Gurney Act, and the attendant circumstances under which it was adopted, are considered, and when it can be shown that, by its adoption, violence is done to the spirit of the charter and the privileges of Convocation. I will notice these points very briefly. It has been said, and by members of the Senate who ought to have known better—and recently I heard the same thing affirmed in the Annual Committee by a senator,—that the Act was in reality compulsory—that the Senate had no choice in the matter, and were compelled to put its provisions in force; whereas, the fact is, that the Act is strictly permissive. It does not apply to the University of London in any particular way, but to some nineteen or twenty licensing bodies, not one of whom, apart from this University, except one Irish body, has taken any notice whatever of this Act; and, to make the matter worse, the Senate put the Act in force at their very next meeting after Convocation had deliberately asked it to defer action in the matter. On a former occasion, the Senate promoted a private Act of Parliament to enable the University to join in the conjoint scheme of medical examinations, thereby effecting a decided change in the University. The Senate were then requested by Convocation not to ignore the privileges of the latter in any similar action hereafter. I shall show presently that, notwithstanding the opinion of the law officers of the Crown, a fundamental change in the constitution of the University would be effected by the present action of the Senate. The House will not fail to observe that a mere chance—viz., the passing of the Act of last session—has given the Senate the opportunity and power to do in the Medical Faculty what it desires to do, but cannot, in the other two faculties of the University without the consent of Convocation. I put it to the House whether they think it fair that one particular faculty of the University should be dealt with in this exceptional way. When these several circumstances are considered, it is evident that, although the Senate has been *legally* right in the abstract, it has done that which is *equitably* and *morally* wrong. Surely the fact of an Act of Parliament being permissive implies that it is to be used with some limitation, not as a compulsory Act—in other words, fairly. The "equitable" view of the matter was put in a most admirable way to the Master of the Rolls for his opinion. I do not think I shall be guilty of any breach of confidence in adding that it was put into form by the registrar of this University, as follows: "While giving to the Senate the uncontrolled power (subject only to the veto of the Home Secretary) of directing the affairs of the University within the limits prescribed by its charter, that charter explicitly provides that no new charter shall take effect, nor any old one be surrendered, without the *joint assent* of the Senate and Convocation; and it is contended that this is *morally* tantamount to providing that no fundamental change in the constitution of the University, such as would (unless made by Act of Parliament) require a new charter to effect it, should be made without such joint assent. This provision would of course be overridden by any *positive* enactment of Parliament. But, it is urged, a merely *permissive* Act ought not to be applied by the Senate, without the concurrence of Convocation, in any way which *fundamentally changes the constitution* of the University,—the *spirit*, if not the *letter*, of the Charter requiring that in such a matter the University should act *as a whole*." Now the Master of the Rolls, as I understand, thought there was nothing deserving of notice in the moral view of the matter. His opinion was based upon the fact that the powers of the Senate were enlarged by the permissive Act. He gave, in fact, a legal opinion. But this was unneces-

sary. We had this already, and do not contest the strictly legal view of the case. Besides, the strong bias of the Master of the Rolls in the general question in dispute is well known. I put the same case to a very distinguished graduate of this University—a gentleman who has not, so far as I know, taken any part or side on "the woman's question," who is thoroughly conversant with the working of this University and its charter, and to whose legal opinion this House, I know, will pay more than usual attention. I refer to Mr. Farrer Herschell, Q.C. Now Mr. Herschell did take the trouble to go fully into the case, from all points of view, and he calls attention to some most important considerations and legal points which have not been raised in the Senate or elsewhere. Mr. Herschell says:—

"I am very sorry to say that I shall not be able to be at the meeting of Convocation. I should certainly, if I were there, support the view that the Senate ought not to have adopted the Act of last session without communication with Convocation. There can, of course, be no question that they had a legal right to do so. As the executive body, it lay with them to exercise the power given by the Act or not. But there is no doubt that the intention, in depriving the Senate of the power of accepting a new charter without the consent of Convocation, was to prevent any fundamental change in the nature of the University, or in its operations, being made without the concurrence of the latter body. And no one can deny that a change of considerable importance has been made by the adoption of the Act of last session; because its effect, coupled with the Medical Act of 1858, is, I suppose, to give the University power to grant degrees of M.B., M.D., or M.S., to women, for those are the only 'qualifications for registration' which the University can give, as appears from Schedule A (10) of the Act of 1858. It may, indeed, be said that, although degrees may, by the adoption of the Act of last session, be granted to women, yet the proviso to Section 1 of that Act would prevent the women obtaining such degrees from taking any part in the government of the University, and would therefore exclude them from Convocation. Even assuming this to be the case, I think the change is none the less fundamental. It is wholly beyond the powers of the existing charter, and, but for the Act, could only have been done by virtue of a new charter; and I think the Act, being permissive only, should only have been adopted by the same authority which could accept a new charter—viz., the Senate and Convocation combined. But I would call your attention to the very singular wording of the proviso. I cannot doubt that its intention was what I have stated above; but it is so worded as certainly to leave open the contention that women receiving degrees would become members of Convocation. The proviso says, 'that no person who but for this Act would not have been entitled to be registered shall, by reason of such registration, be entitled to take part in the government of the Universities mentioned in the Medical Act' (including the University of London). Now, the membership of Convocation results from the degree, not from registration, under the Medical Act, which has nothing to do with it. It may be said, therefore, that it is nowhere provided that the 'qualification'—i.e., the 'degree'—which the University is empowered to give to women shall not have all its natural consequences, and, *inter alia*, the right to a part in the government of the University, it being provided only that such persons shall not by reason of registration (which the section itself distinguishes from the qualification) have any such right. I think it very likely that this wording is a piece of blundering; but if there is anything in the point I have suggested, the constitution of Convocation itself may be fundamentally affected."

In a second communication, Mr. Herschell says:—"On considering further the legal point to which I alluded, I am more and more convinced there is a great deal in it. It is, to say the least, very doubtful whether the Courts would not hold that the female graduates became members of Convocation. It is possible that they might hold otherwise to carry out the apparent intention of the clause; but it is, to say the least, very possible that they might hold themselves unable to do so. It would depend a good deal on the constitution of the Court before whom the question came. If this be so, surely, in such uncertainty on this point, the Act ought not to be adopted. Do not be led away by the statement, if it be made, that the law officers have advised the contrary. It is worth little unless you see the exact terms of the opinion."

Such is Mr. Herschell's judgment. But let me for a moment refer to the opinion of the law officers of the Crown to which he refers. This has been most strangely misrepresented. The law officers say that "women admitted to degrees in medicine or surgery would become members of Convocation in the same way as men; but under the proviso contained in section 1 of 39 and 40 Vict., cap. 41, they would be under a special statutory disability, which would prevent them from taking any part in the government, management or proceedings of this University." But they conclude with a most important paragraph, which has been suppressed in the discussions on the subject, as far as I have observed. Their opinion is a qualified one. They add:—"The proviso just referred to enacts that 'no person, who but for this Act would not have been entitled to be registered, shall by reason of such registration be entitled to take any part in the government,'" &c. "It is obvious," they continue, "that there is a slip in the words of the proviso. It ought, we think, to be construed as if the words 'qualification for such registration,' had been used instead of the words 'such registration.'" The Attorney- and Solicitor-General therefore qualify their opinion, or they "hedge" with this concluding paragraph. It is perfectly clear they have a doubt on the point. But I will now show, Sir, that there was no "slip in the words of the proviso." Mr. Russell Gurney, to whom I wrote upon this very point raised by Mr. Herschell, at the request of several graduates, tells me that lawyers differ as to the clause, that the proviso was given to him as the condition on which the Bill would be allowed to pass, and that he consented to it. He adds:—"I wish it had been worded differently." Now, if there was no slip in the proviso, clearly the ground upon which the law officers of the Crown gave their opinion to the effect that women would not be admitted members of Convocation with full privileges, is unsustainable; and, in fact, Mr. Herschell is wholly right. I think the House will feel that, by the adoption of the Russell Gurney Act, the constitution of Convocation will be fundamentally changed; and surely I have said enough to prove that the Senate is straining its power to an unconstitutional degree, and that if Convocation permits this, it virtually deprives itself of all its privileges but one, and that is the occasional nomination of a senator. I cannot think that Convocation will, by its refusal of my motion, say that it is content with that solitary privilege, and that only. I trust the House will consider the time chosen for the institution of this new *régime* of Cæsarism by the Senate—the time when the constituency of the University, by virtue of its increasing numbers and the status of its members, ought to have its privileges increased, and not curtailed or annihilated. Lastly, I would direct attention to one paragraph in a circular issued by some of those in this House who differ from me. They say, "the action of the Senate amounts to no more than a refusal on their part to reject the powers permissively conferred on them by the Act, when applied to by one of the public to exercise them." I understand this to mean that, upon a request made to the Senate by a mere outsider to alter the constitution of the University for his or her benefit, the Senate is justified in utterly ignoring the rights and privileges of the whole constituency of the University. The thing is too monstrous to be discussed for a moment. I do hope that this House will be true to itself, and that it will show, by its vote, that it is tenacious of its just rights, and worthy of their exercise; otherwise the result can only be disastrous for the University. (Cheers.)

Dr. JOHN CHANOW seconded the resolution, and said that it was perfectly well understood that the powers of Convocation were limited, but the recent action of the Senate in taking advantage of a permissive Act of Parliament to confer degrees in medicine upon women without consulting Convocation reduced the privileges of the latter to nil. The Senate might always act in this manner, independently of Convocation, and there was no reason why it should not apply for permissive powers to grant degrees to women in arts and laws without seeking for a new charter. He contended that, in spite of the statements contained in the circular signed by Mr. Shaen and five other members of Convocation, the Senate had practically superseded the privileges of Convocation, because they had admitted women

to their degrees by means of an Act of Parliament instead of by a special charter. For himself, he was free to confess that had the Senate adopted the constitutional course, and applied to Convocation to adopt a supplementary charter, he would have withdrawn his opposition to the admission of women to degrees. The course which the Senate took in 1874 in respect to the Medical Acts Amendment Bill was said to have been due to inadvertence on their part; but now, when a similar occasion offered itself, and when even through the action of Convocation the Senate had the chance of withdrawing, they negatived the proposal of Convocation by 16 to 11, with their eyes open. ("No, no," from Mr. De Courcy Atkins.) Well, at any rate the Senate did not pass the resolution sent down to them from Convocation. If the Senate continued to deliberately disregard the opinion of Convocation, there was no use in attending the meetings of the latter body; and, for his own part, if Convocation was to have no influence and no power, he certainly should not care to come to Convocation, where the whole thing was simply a farce and a solemn sham.

Mr. A. P. HENSMAN moved as an amendment, "That the Senate, by adopting the Act which permits it to grant degrees in medicine to women, has promoted the best interests of the University." He said that it was somewhat curious that it should have fallen to the lot of the medical graduates to take up this legal and constitutional ground, but it would seem that they did not so much propose to argue the point of legality, but to take a high moral ground—a new line to be taken by medical graduates who had at the last meeting of Convocation shown their interest in the subject by almost swamping discussion. Turning to the circular issued by the committee of medical graduates, Mr. Hensman said that it contained many misleading and inaccurate statements. For example, it states that in the University charter it is "expressly declared" that the consent of both Senate and Convocation must be obtained before any constitutional change can be made. But, on referring to clause 21 of the charter, in which the privileges of Convocation are laid down, he could find no such express declaration; that is, a declaration in words. On the contrary, the powers of Convocation are limited to the acceptance of a new or supplemental charter or the consenting to the surrender of the charter; the clause concluding with the words "except as expressly hereby provided, the Convocation shall not be entitled to interfere in or have any control over the affairs of the University." The second clause of the charter says that the University shall consist of "all classes and denominations . . . without any distinction whatever," and in the 18th clause the power of carrying out the intention of the foundation is given to the Senate in the terms—"and in all cases unprovided for by this our charter, it shall be lawful for the chancellor, vice-chancellor, and fellows to act in such manner as shall appear to them best calculated to promote the purposes intended to be promoted by the University." They had been told that the Act of Parliament was a mere accident. In this country Acts of Parliament overrode charters, and if the Senate were of opinion that the adoption of the Act would further the interests of the University they were bound honestly and fairly to adopt it. In doing so the Senate was said to be ignoring the wishes of Convocation, but the latter body had persistently, since the year 1874, voted in favour of the admission of women to degrees. The chief opposition always came from the medical graduates, who, in May of this year, found an opportunity of again moving in the matter. He considered this action to be very ill-judged, for it was well known there was a strong medical organisation prepared to go any lengths in opposing the admission of women to medical degrees. But even the medical graduates could not meet the question with a direct negative. They said it was unfair to their faculty that women should be admitted to it alone, and so they wished to relegate the whole question, upon which Convocation had again and again voted, for future consideration. For his own part he could not see the unfairness, and the Senate, in order to meet this point, had decided that it is desirable to admit women to all degrees. At the meeting of July 4th a motion was passed in the Senate to the effect that it is desirable a new charter be obtained, extending the power of granting degrees to women, which is already possessed in the case of medical degrees, to the case of degrees in all other faculties. There was nothing in the refined distinction now drawn between a permissive Act and a charter; the degree conferred in either case must have an equal value. There had been a most remarkable change of opinion in the Senate upon this question. In 1874 a considerable majority of the Senate were opposed to the admission of women to degrees; but within the space of three or four years the Senate had frankly and candidly changed their views, and, having resolved to take advantage of Russell Gurney's Act, are now going to apply for a charter to throw open all degrees to women. To say that the Senate had acted in a morally wrong manner is to take very strong ground indeed. The original resolution amounted to a vote of censure on the Senate for carrying out the frequently expressed views of Convocation! He was as anxious as any member there that the privileges of Convocation should be increased, and had struggled to get a special committee appointed for that purpose. By all means let the power of Convocation be increased, but do not let the Senate be censured because they had done what annoyed a certain section of Convocation. That vote of censure, if passed, would react upon those who suggested it, for the Senate had acted up to the spirit of the charter, and if they had violated the charter, either legally or morally, they would not be promoting the best interests of the University.

Mr. T. DE COURCY ATKINS seconded the amendment.

Sir WM. JENNER asked the Chairman whether any time were fixed for the conclusion of the debate or the taking of a division. He further said that, as a member of the Senate, he could say that the Senate, and he regretted to add supported by so-called liberal members, did combine to put down and ignore the voice of Convocation. He, for one, would join heartily in a vote of censure on the Senate. Having ignored the expressed wish of Convocation, the Senate should be condemned by this House, and left to their course.

The CHAIRMAN said that there was no power of bringing the debate to a close, or of fixing a time at which a division could be taken.

Mr. JOSEPH LISTER GODLEE said that Mr. Hensman seemed to think that the resolution was supported only by medical graduates. But he was proud to be one of those who, although not a medical graduate, yet desired the resolution to be carried. The "high moral" ground criticised by Mr. Hensman was a most just line for Convocation, which could not be expected to have its decisions passed over without a protest. The resolution which had stood first on the notice paper afforded a very good precedent for the action of Convocation now, for it showed how, on a previous occasion, when the Medical Acts Amendment Bill was passed without Convocation being consulted, that body had entered a strong protest against being so treated by the Senate. The action of Convocation then was essentially the same as the proposed course now being taken. Everything went to show that the Senate had adopted a fundamental change in the University; and surely their subsequent action, in resolving that it was desirable to apply for a new charter in order to admit women to degrees other than medical, showed that they felt the change to be a fundamental one. Surely, to admit women to degrees in medicine was as much a constitutional change as to admit them to degrees in arts or laws. Convocation had been reminded over and over again that it had passed unanimous resolutions for admitting women to degrees. Such resolutions were unanimous in this, that the change should not be done piecemeal; and the vote of Convocation in May affirmed this, by refusing to admit women to degrees in one particular faculty only.

Mr. WM. SHAEN supported the amendment. He said that no one could be more jealous of the privileges of the House than he himself was; and he fully concurred in much that was stated in the circular issued on behalf of the medical graduates' committee. He gladly recognised the friendly and liberal tone of the speech of Dr. Fox, and regretted if anything which had fallen from Mr. Hensman should have seemed to have cast a personal reflection upon any one body of the graduates. He himself drew up the report of the Annual Committee in 1874, in which the action of the Senate with regard to the Medical Acts Amendment Bill was deprecated, and he was not prepared to go back one iota from the resolution then passed in Convocation. But now practically they were called upon to pass a vote of censure on the Senate for having taken a certain course of

action; and he did not think such a proposal, if carried, would conduce to the dignity or add to the rights of the House. He contended that the ground upon which this meeting had been requisitioned—viz., that this was a second instance in which the Senate had deliberately ignored the claims of Convocation—was untenable. There was no analogy whatever between the action of the Senate in 1874 and in the present instance. In 1874 the Medical Acts Amendment Bill was a private measure introduced by the Vice-Chancellor of the University at the request of the Senate. In that case the Senate had two courses open to it—either to apply directly to Parliament, or else to apply for a new charter; in taking the former they did give the go-by to one of the most valuable privileges of Convocation. It was very different in the present case. There was really no evidence whatever that a vote of censure was called for. The Act of Mr. Russell Gurney was not brought in at the instance of the University nor of one of its graduates (cries of "Drawn, drawn"). Well it may have been drawn by a graduate, but not by the request of the Senate. The admission of women to medical degrees would make a serious alteration in the constitution of the University, but that alteration was made, not by Convocation, but by Parliament. Was it likely that the Senate would so soon forget the promise made in 1874? He regretted that the medical graduates should have thought it necessary to impugn the action of the Senate, and he hoped this would be the last time in which there would be a division among the faculties upon questions concerning the whole University. The vote taken last May was only gained by the medical graduates owing to the adhesion of graduates in arts and laws. The circular issued by himself and five other graduates pointed out that on two distinct occasions Convocation had passed resolutions in favour of admitting women to degrees, and a little calm and quiet consideration would show that Parliament intended the Act of last year specially for this University. (No, no.) Those who said "No, no" were led away by the term "permissive." He could not read that Act without seeing that by it Parliament placed great responsibility upon the Senate. (A voice: "No, no; the University.") Well, for all practical purposes the University meant the Senate, that being the governing and executive body. It was impossible for any charter to declare that no fundamental alteration could be made without the consent of Convocation; no charter could limit the rights of Parliament. When the Senate was asked by a lady to take advantage of the powers conferred by the Russell-Gurney Act, they had no alternative but to do so. The subject came before the Senate in November, 1876, when many of its medical members were present, but they made no sign; nor at the meeting of Convocation in January did any of these gentlemen even hint that the powers of Convocation were about to be infringed; nor was any notice of motion given in the Senate, at its meeting in February; so that until after the meeting of Convocation in May, there was no reason for believing that any member thought the Senate to be straining its powers. Whatever might be done, he hoped they would never take such a suicidal course as to carry the differences between the Senate and that House to any external authority, and above all to the Home Office.

Mr. JULIAN GOLDSMID, M.P., in supporting the resolution, conceded that the action of the Senate now was different from its action in 1874. He had always maintained that Convocation should be more fully representedon the Senate; that at least three-fourths of the senators should be nominated by Convocation; and seeing that the Senate contained only a minority of graduates of the University it was right that Convocation should look after it. The Senate had acted legally, but he contended that the very fact of the Act being a permissive one should have led to the consultation of Convocation in the matter.

Mr. WILLIAM FOWLER said he came down to that House with considerable doubt as to the way in which he should vote, for not only was he averse to passing a vote of censure on the Senate, but he was also strongly in favour of granting degrees to women in all faculties. But that point was not before the House; it was discussed last time. In this matter the Senate had to consider Convocation as well as the women. He would have liked the resolution better if the last two words had been omitted, for Convocation did not seem to have any privileges. He did not, however, approve of the Senate practically superseding the powers of Convocation by means of a quasi new charter; and although he might seem inconsistent, he was yet so jealous of the privileges of that House that he would certainly vote for the resolution.

Mr. THOMAS TYLER supported the resolution because the Senate had ignored the expressed opinion of Convocation, and had, moreover, not acted up to the spirit of the charter.

Mr. J. GIRLING FITCH, as a member of the Senate against whom this censure was being directed, said that he had always believed the University should recognise the claims of women to a higher education, and that eventually it would open all its degrees to them. The Legislature was responsible for the fact that the first degrees to be thrown open should be the medical; but, although it would have been easier, if done piecemeal at all, to have first admitted women to degrees in arts, yet the action of the Senate would facilitate their admission to all degrees. The Senate, by resolving to apply for a new charter, had already taken this step, which was practically in accordance with the vote passed in Convocation in May. It was using language in rather an unusual sense to talk of moral obligations, &c., in an institution which was not of such antiquity as to possess any unwritten law. The present resolution, if carried, might lead to the permanent alienation between the two bodies which have a common interest in the welfare of the University. If the House intended to accept a new charter, then surely the present feeling about a mere question of forms and order was excessive; but if it was intended that the Senate should rescind its resolution and embody it in a new charter, the matter would only be settled in one way.

Mr. EDWARD H. BUSK thought it a most serious matter to censure the Senate, who had been misled by the law officers of the Crown. He quoted the opinion of Mr. Montague Cookson, who says with regard to the Russell Gurney Act, that the result is that the proviso does not neutralise the operation of the Act or charter, so far as regards the admission of women to Convocation, or their exercise of all the rights possessed by male graduates. He very much regretted that the Senate did not take further advice, but instead of censuring he intended to propose an amendment (if the amendment now before the House was not carried) which would have the effect of asking the Senate to defer further action for the present.

Dr. RICHARD QUAIN, in reply to Mr. Shaen, said that he had no opportunity of asserting the rights of Convocation when the matter was first mooted in the Senate; and moreover he thought the Senate would have listened to the resolution sent to it by Convocation in May. He defended the formation of the Committee of Medical Graduates, which was intended to direct other graduates in their votes on medical questions. The resolution which stood first was simply a statement of a historical fact, that an Act of Parliament had been used to make a breach in the constitution of the University. The Act was passed in obedience to the suggestion of the Medical Council; and they were now told the Senate had a responsibility in adopting its provisions. Well, it was a responsibility shared by eighteen other bodies, of which only one—a "wretched institution in Dublin"—had felt bound to do anything. A woman comes to the Senate and tells them there is an Act of Parliament by virtue of which they could grant her a medical degree, and the Senate consented to take action, but it was utter nonsense to say they were compelled to. It was obvious that the Senate, having settled the question of medical degrees, had then to seek for a new charter before they could place the other faculties on the same level. Lastly, he would like to know in what milder language could a vote of censure be framed than in that of the resolution, which was merely a humble expression of regret.

Mr. T. SMITH OSLER said that whether he were right or wrong, he still adhered to the opinion that the Senate had acted perfectly constitutionally, and did not supersede any privilege of that House. He was the first member of the Senate to call the attention of that body to the wording of the Act, and upon that the opinion of the law officers of the Crown was based, and until that day he had not heard of any criticism being passed upon their opinion. However, he was free to confess that the opinions they had heard as given by Mr. Farrar Herschell and Mr. Montague Cookson,

as to women being eligible for Convocation, entirely altered the points of the question. He thought it right to make this admission, because he was going to vote against the resolution, which he was unable to take except as a vote of censure.

Mr. WM. T. LYNN, who spoke amidst cries of "Divide," suggested that some compromise might be arrived at.

Mr. J. HORNE PAYNE advocated vigorously the rights of Convocation, and spoke amidst many signs of impatience.

A division was then taken. The numbers were:—For the amendment, 82; against 143; majority against the amendment, 61.

On the resolution being put as a substantive motion, Mr. E. H. BUSK, M.A., LL.B., moved as an amendment, which was seconded by Mr. W. FOWLER, LL.B., B.A.—"That this House having learned that doubts have been expressed whether degrees granted to women by virtue of the power conferred on the University by the Act of 39th and 40th Vict., c. 41, will not constitute the holders thereof members of Convocation, and having learned that the Senate is about to apply for a new charter empowering them to grant to women degrees in all faculties, by which the rights of women holding degrees will be fully determined, requests the Senate to refrain from availing itself of the powers conferred by the Act until after an opportunity shall have been afforded to consider the terms of the proposed charter."

The amendment being briefly supported by Messrs. Anstie, Bompas, and Hilton Fagge, a division was taken, when there were for Mr. Busk's amendment, 77; against, 113; majority against amendment, 36.

The House then voted upon the original resolution by show of hands, but a division being called for, there were—ayes, 114; noes, 71; majority, 43. The original resolution was declared to be carried, amid loud cheering.

The first resolution on the notice paper being withdrawn, the third resolution, modified at the suggestion of several members, was proposed by Dr. CURNOW and seconded by Mr. R. J. GODLEE. The terms of the motion were: "That it be referred to the Annual Committee to confer with the Senate in reference to the foregoing resolution, and to ask them not to take any further action under the Act of 39th and 40th Vict., c. 41." The motion was met by one for adjournment, which was negatived, and the House then divided on Dr. Curnow's motion, which was carried by 88 votes to 52; majority, 36.

The proceedings terminated with a vote of thanks to the chairman.

THE FRENCH COMMISSION ON SPONTANEOUS GENERATION.

A FORTNIGHT ago we stated that Dr. Bastian had left for Paris with the intention of performing his experiments before the French Commission, but we are sorry to say that the latter has effected nothing. Dr. Bastian has returned, the Commission is broken up, and the whole matter has ended in such a way that all sorts of misunderstandings are likely to arise. In *Nature*, of August 2nd, is published the correspondence which has taken place between the representative of the French Commission and Dr. Bastian, this beginning so far back as February last. It appears from it that Dr. Bastian has been for some time attempting to obtain from the Commission a definite account of their proposed procedures, but owing to miscarriage of letters from France, and dilatoriness in reply, nothing definite was arrived at until quite recently. It will be remembered that the Commission—consisting of M. Dumas, M. Milne-Edwards, and M. Boussingault—was appointed to determine whether vital changes could take place in sterile urine treated with liquor potassæ, provided that the potash was pure, or, if impure, had been boiled for twenty minutes. Dr. Bastian was, of course, naturally desirous that the work of the Commission should be confined within these limits, seeing that he could not stay in Paris more than three or four days, and that if no distinct issues were fixed, the inquiry might be prolonged for an indefinite period. It was not, however, until June that he heard from M. Dumas that the Commission would, if possible, "occupy itself" only with the experiments on urine treated with liquor potassæ. On this understanding Dr. Bastian left for Paris, and met M. Milne Edwards and M. Dumas in M. Pasteur's laboratory on July 15th, M. Boussingault having withdrawn from the Commission because of family affliction. At once M. Milne-Edwards objected to the limitation of the inquiry, and thus ignored the letter of his colleague, M. Dumas, who had expressly stated in writing that such limitation was agreeable to the Commission. At the first look M. Milne Edwards may seem to be in the right, but not when we remember that the Commission was appointed to determine a question of fact, and was not called upon to go into the whole question of germs and spontaneous generation. Dr. Bastian states that he proposed a sort of compromise—that M. Pasteur and himself should perform their experiments, and that afterwards he (Dr. Bastian) should return to Paris and perform any modified experiments the Commission suggested. However, nothing came of this. In the place of M. Boussingault, a gentleman who is an old pupil and present colleague of M. Pasteur was appointed on the Commission; and again it was agreed a meeting should be held in M. Pasteur's laboratory, Dr. Bastian making all arrangements for his experiments, in accordance with a request of M. Van Tieghens, the new Commissioner. This gentleman, M. Pasteur, and Dr. Bastian attended at the time appointed, and shortly afterwards came M. Milne-Edwards. He again objected to the arrangements made, and at once took his departure. Afterwards M. Dumas appeared, and left the laboratory unknown to Dr. Bastian and the third Commissioner, who, at the time, were in an upper room. The whole business does not convince us that commissions of the French Academy are worth repeating, and we cannot but think, with the evidence before us, that Dr. Bastian has been treated with but little courtesy.

THE RADCLIFFE INFIRMARY, OXFORD, AS A CLINICAL SCHOOL.

The following letter has been forwarded to us for publication:—

To the Secretary of the Royal College of Surgeons.

SIR,—Among the provincial hospitals unattached to medical schools, but recognised by the College of Surgeons, is the Radcliffe Infirmary in this city. Wishing to spend part of my student's life in Oxford, I entered last year at this university. I then called on Dr. Acland, and told him that I wanted to be admitted a student of the Radcliffe Infirmary. The clinical Professor raised no objection to my studying at the Radcliffe Infirmary, but said that he had never given certificates of such study, and that he would give none to me. Through this inconsistency between the regulations of the College of Surgeons and the conduct of clinical Professor, I was put to great inconvenience and no inconsiderable expense.

As it is possible that other students wishing to study at Oxford may be similarly victimised, I think it well to mention these facts to you, in order that the Council of the College of Surgeons may strike the Radcliffe Infirmary off the list of recognised hospitals, or take what other steps they may deem necessary.

Possibly, you may think that this is not a matter in which the College need interfere; but, apart from the College being bound to maintain consistency in regulations affecting students, it seems to me that if the *clinical* Professor seriously believes there is an adequate reason for not using his hospital as a place of *clinical* instruction, the Radcliffe Infirmary should cease to be recognised by the Royal College of Surgeons.

Your obedient servant,

Oxford, July, 1877. GLYNN WHITTLE, M.D.

THE LANCET.

LONDON: SATURDAY, AUGUST 4, 1877.

WE have reason to believe that the attack of typhoid fever from which Prince ALBERT VICTOR OF WALES has suffered was contracted at Marlborough House, and not at Sandringham, as at first reported. If the infection occurred at Sandringham, the period of incubation of the disease must have been exceedingly short; and the probability of the infection having happened at Marlborough House would appear to have been much greater than at Sandringham. Indeed, when the disease first declared itself, those persons who had some knowledge of the sanitary arrangements of that building seem to have had an uncomfortable suspicion that it might have had its origin there. At any rate, it is significant of the justice of this suspicion that the investigations of Sir WM. GULL, Dr. SEATON, and Mr. RAWLINSON, as to the source of Prince ALBERT VICTOR'S illness, should have been up to the present time limited to Marlborough House; and sufficient has oozed out to show that it will probably not be needful for them to go further afield in their search. But be this as it may, it will be well to recall here certain facts about this royal dwelling which may have been forgotten.

Marlborough House was built in 1709–10 by Sir C. WREN, and its drainage arrangements probably remained very much the same from the time of its erection to the time when it was converted into an appendix to the National Gallery, and was used for the VERNON and TURNER collections of paintings, and afterwards to the period when it became the residence of the Prince of WALES. Sufficient is known of these arrangements to enable us to say that they were such as were common to old mansion-houses in London—that is to say, particularly rude and especially nasty, and that they gave no small anxiety to the persons entrusted with placing the house in habitable order for his Royal Highness. But we understand that the only proper practice to follow in such cases—namely, the entire removal of the old system of drainage and its replacement by one of modern design and construction—was not carried out. Parts of the old system of drainage were retained, and with the usual result—that an unsatisfactory patchwork of new and old was produced, difficult to be maintained in proper working order, and apt at any moment to reproduce some of the worst evils of the old system. It is well known that after the occupation of the house by the Prince of WALES, Mr. RAWLINSON had more than once to be appealed to with reference to nuisance from the drains, and it has been averred that, but for the skill he had displayed in obviating evils which ought to have been provided against from the beginning, the house would have been hardly habitable.

In recent years alterations and additions have been made to Marlborough House, which have subjected its drainage arrangements to such multifarious chances of disturbance as plumbers and bricklayers too commonly luxuriate in, except under skilled supervision (which, strange to say, it is stated does not exist here); and the older drains have so manifestly deteriorated, that rats coming thence form an important element of the Royal household. This being the case, as our inquiries would show, it is no wonder that suspicion should point to the state of the drains in Marlborough House as a very probable source of Prince ALBERT VICTOR'S illness. At any rate the nation will feel grateful that that illness (happily not productive of serious effects) should have directed attention to, and led to the disclosure of, a state of things in Marlborough House which could hardly continue without risk of graver consequences than it is pleasant to contemplate.

CONVOCATION of the University of London has, by a large majority, condemned, after an exhaustive discussion on July 27th, the recent adoption by the Senate of a permissive Act of Parliament without reference to Convocation. In May of this year it declined to thank the Senate for its resolution to admit women to degrees in Medicine, but its vote received from the Senate that disregard which had befallen the memorial of the medical graduates. In consequence came an extraordinary meeting of Convocation; and more than a complete justification has been afforded those who asked for the meeting by the fact that it has, by a majority of 61 in a House of 225 members, decided against the action of the senators. Full particulars are given elsewhere. Here it is enough to say that the first vote was taken on a motion which asserted that the Senate had by its action practically superseded the privileges of Convocation. This was the resolution of the evening, and the overwhelming majority by which it was carried foretold what would occur in subsequent divisions. Thus Convocation and the Senate are in direct antagonism, and no one can regret more than we do that things have come to so serious a pass; but no one can rejoice more that Convocation has taken a sound view, and has, by a vote so decided, expressed its determination to uphold what few privileges it possesses. The Senate can scarcely refuse to listen to the declaration of Convocation when given with such force, no matter what its legal rights may be, and no matter what action it has previously agreed upon; and we trust that those graduates who have a seat in the Senate will clearly explain the dangers which are not only threatening, but must certainly befall the University if the executive heedlessly and hurriedly continue its former tactics.

The leading resolution was proposed by Dr. TILBURY FOX in a speech straightforward and eloquent, and not spoiled by lack of humour or by loss of temper. He made a strong point of a legal opinion given by Mr. FARRER HERSCHELL, who was unavoidably absent. Mr. HERSCHELL had shown that the Senate had changed the constitution of the University against the spirit of the charter, and also that—contrary to what the Senate believed—women, if admitted to degrees in Medicine by RUSSELL GURNEY'S Act, could claim by their degree a right to sit in Convocation. This view, explicitly laid down by quotations from Mr. HERSCHELL'S letter, was not disputed by the legal graduates, and yet in face of it, and of the muddle in the state of things which Mr. HERSCHELL'S acuteness had detected, many voted in the

minority. But, fortunately, not a few influential graduates in the faculty of Law, as well as in the faculty of Arts, took the view that, morally, right had not been done, and that the Senate had acted in an unconstitutional manner. Dr. CURNOW, who ably seconded, and those who as ably supported Dr. FOX'S motion, went straight to the points at issue, and we feel bound to say that from first to last the argument was almost completely against the Senate. One point raised by the apologists of the Senate (and we congratulate them on their appearance in a new character) was that the questions raised ought to have been before brought forward; but this objection was met by Dr. QUAIN, who retorted that everyone expected the Senate to listen to the vote of Convocation given in May, and felt at that time there would be no need for further action. And surely Convocation had a right to hope that the Senate would be guided to a certain extent by its vote, inasmuch as the Senate had agreed to postpone action until such vote had been taken. The subsequent course of the Senate leads us to suppose that it expected a very different result in Convocation; at any rate, when the vote proved an adverse one, it passed it by, and thus practically told members of Convocation that they had been concerning themselves with things with which they had no right to meddle.

We feel bound to advocate strongly the rights of the medical graduates and those of Convocation generally. At the same time, be it understood that we do not forget the great good which the University of London, guided by its Senate, has done for the medical profession. To "the majority" in the Senate we impute no motives other than those which are honourable, though the medical profession has not received from some of the supporters of the women, even in the Senate, equal consideration. Even in Convocation such words as "interest" and the like fell from some speakers of the women's party. But while we regret the utterance of them, we can afford to pass them by. However, while believing that the Senate has been actuated by the best of motives, we do think that an enthusiasm for a few women has blinded it against the moral rights of the graduates. It was pointedly said by one speaker, not a medical graduate, that the Senate, in its eagerness to do the women a good turn, had quite forgotten the men.

Convocation finally agreed to request the Annual Committee "to confer with the Senate, and to ask them not to take any further action under Mr. RUSSELL GURNEY'S Act." Considering the strength of those who had carried previous resolutions, we are sure that the temperate tone of the last must commend itself, and show that the majority were prepared to act in a more liberal spirit than many previous majorities in Convocation. We agree with Sir WILLIAM JENNER that the first resolution was a vote of censure, as he declared in the most unhesitating and characteristic manner; and we hope the Senate, receiving it as such, will be persuaded that its duty is to set itself right with Convocation. It should remember that a party which can carry a strong vote by a majority of sixty-one cannot be regarded as a "section" or as a "clique." The last resolution of Convocation gives the Senate its opportunity, which should be taken up in the freest spirit. We know that in certain quarters propositions have been made, and, indeed, hinted at in Convocation, that probably the Senate would agree to drop the objectionable permissive Bill if Convocation would promise to accept a charter admitting women to all faculties. But surely the Senate would scorn such a course. Far better to disregard Convocation again than attempt to persuade it to sell its privileges in such a way! For our part, we neither believe the Senate would contemplate such a procedure, nor that the graduates would for a moment consider it; otherwise we should not trouble to write so fully on the University of London. To our minds the way is perfectly clear. The Senate should, without hesitation, drop the permissive Bill; it should waive its legal rights, and remember that Convocation's voice, where fundamental changes are proposed, ought to be heard; if it forgets this it forgets at the same time its moral responsibilities. If the majority of the Senate are persuaded that the doors of the University should be opened to women in all faculties, their plain duty is to ask for a new enabling charter, and to submit such to Convocation for its approval or refusal. By such a plan alone can harmony be restored, and the Senate must not and cannot refuse to endeavour to restore this harmony between itself and Convocation. The very men who now oppose the Senate have hitherto been its strongest adherents, and may justly claim from it an impartial reconsideration of all the difficulties. It is perfectly well known to our readers that we believe women totally unfitted for the medical profession, and the side-wind method adopted for their admission by the University of London strengthens us in our belief. But if the Senate thinks otherwise, there is open to it a fair way of giving effect to its conviction. After the decided opinion given by Convocation, it should require no asking to yield to the graduates their fair and legitimate share in the settlement of the question. Unless this be done, we have grave doubts as to the future of the University, and our doubts become greater the more we regard the significant divisions arrived at in Convocation on July 27th.

THE attention which has recently been given to the morbid anatomy of cerebral syphilis, and the careful clinical observation of the last few years, with which the names of WILKS, HUGHLINGS JACKSON, and BUZZARD in this country are especially associated, have led to some important additions to our knowledge. But the precise connexion of the various changes in the brain with the several sets of symptoms has as yet been but imperfectly worked out. We know, in fact, that the morbid lesions may be divided into three or four distinct sets: affections of the arterial system, of the dura and pia mater, of the brain-substance proper by growths of gummatous material into its substance, and of the cranial nerves, not to mention the growths in connexion with the cranium and external surface of the dura mater. In many cases these lesions and the symptoms consequent upon them are found combined in the same case, but in a not inconsiderable number of cases one or other predominates, and gives a special character to the symptoms. Thus in the class of cases which come under the head of syphilitic epilepsy, in which the peculiar mode of onset and evolution of the fits have led to the appellation of "Jacksonian epilepsy," in honour

of the physician who first clearly studied and described them, the symptoms seem to be specially associated with a gummatous infiltration of the pia mater over certain portions of the vertex, and of a greater or less extent of the subjacent cortical substance. But in a very large number of cases the symptoms are ill-defined, irregular, and apparently capricious, and it is this irregularity and multiformity which is often regarded as the special characteristic of cerebral syphilis. It is certainly important that we should, if possible, be able to attach the various symptoms to the lesions which produce them, and to classify for purposes of prognosis and treatment the several clinical forms which present themselves. Something of this kind has been attempted by HEUBNER in a very able article in the twelfth volume of ZIEMSSEN'S "Encyclopædia," to which an especial importance attaches, owing to the valuable work which the author has already done in connexion with the morbid anatomy of the subject.

According to HEUBNER, cases of cerebral syphilis may be roughly divided into three distinct clinical groups. There are, however, certain symptoms which they have in common, and which occur in a large number of cases of all forms Of these headache is the most frequent and striking, and usually the first to attract attention. This symptom, which is mentioned by all authorities on the subject, HEUBNER describes as being of paroxysmal character, often worse at night, intermittent in its appearance, and usually more or less circumscribed, the latter point being one on which BUZZARD and CHARCOT especially insist. HEUBNER, however, regards this prodromal headache as due to changes outside the cranium, and in favour of this view states that it is distinctly increased by pressure on certain points. When the pain is continuous and persistent, he allows that it may be due to affection of the dura mater. Sleeplessness is another early symptom, often consequent upon the headache, but in many cases occurring independently of it. These two symptoms may precede the appearance of more definite ones by a long period. As the more definite outbreak approaches, certain other symptoms may occur, such as attacks of dizziness, mental disorder, and loss of memory, and other ill-defined nervous and mental derangements. "The disease itself," says HEUBNER, "makes its appearance with the most rapid and unexpected outbreak of severe cerebral symptoms. ..... The nature of this outbreak, as well as of the further progress of the disease, is determined by the anatomical form in which the disease develops within the cranium."

Of the three fundamental types which he lays down, the first consists in psychical disturbances, with epilepsy, incomplete paralysis (seldom of the cranial nerves), and a final comatose condition, usually of short duration. It is to this form that Dr. HUGHLINGS JACKSON has so strongly directed attention, in which the epileptiform seizures, followed by slight and usually transient paralysis of hemiplegic distribution, are the most striking features. Affections of the cranial nerves are rare, with the exception of the second pair, optic neuritis being especially common in this form. But, together with the convulsions, there occur not infrequently some mental disturbances, which may gradually go on to melancholia or mania, or a condition resembling paralytic dementia (general paralysis), but without exaltation. A peculiar slowness and hesitancy of speech (*embarras de parole*), especially marked on making efforts to talk, is also not uncommon. This epileptic form is in nearly all cases found to be due to gummatous growth in the pia mater of the convexity of one of the cerebral hemispheres, either limited and superficial, or involving more or less of the cortex, and forming a distinct tumour. Out of twenty-six cases observed by HEUBNER, where the morbid process was of this form, epileptic or convulsive attacks occurred twenty times; whilst in nineteen other cases, where the growth was limited to the white substance or the base of the brain, this symptom was found only twice. Similar observations were made by JAKSCH, and these records entirely agree with the experience of WILKS, HUGHLINGS JACKSON, and others.

The second form described by HEUBNER is the apoplectic, characterised by "genuine apoplectic attacks, with succeeding hemiplegia, in connexion with peculiar somnolent conditions occurring in often-repeated episodes, frequently phenomena of unilateral irritation, and generally at the same time paralysis of the cerebral nerves." The symptoms in this form vary greatly in character and degree, and present very marked changes from time to time, so that any comprehensive summary is difficult. The prodromal symptoms are the same as in other forms, but the apoplectic attack may be preceded by a sudden paralysis of some cerebral nerve, or one of its branches only—ptosis, for example, being one of the commonest,—or by signs of irritation of the nerve, spasmodic contraction or neuralgia resulting. Then a genuine apoplectic attack, with or without loss of consciousness, occurs, resembling in its onset and course that due to other causes, and presenting considerable variety. But whatever the course of the apoplectic attack and resultant hemiplegia, there is developed sooner or later a peculiar somnolent condition, which is very characteristic. This is described by HEUBNER as a typhoid, half-conscious and half-sleeping state, from which the patient can be aroused, and in which he displays half-unconscious motor impulses, and is in a condition analogous to somnambulism. But whilst this condition may pass into fatal coma, it not unfrequently undergoes rapid improvement, and even recovery of a normal condition. Relapses, however, again and again occur. It is the combination of these attacks of hemiplegia, paralysis of cranial nerves, and somnolent condition, variously grouped, occurring apparently independently of each other, all liable to very marked alternations of severity, but in unequal degree, which constitutes the peculiar character of this form of cerebral syphilis. It is in this form that the peculiar affection of the cerebral arteries, leading to their more or less complete obstruction, is found, and upon this change appear to depend the apoplectic attacks and the hemiplegia. HEUBNER found that nearly all his cases of this arterial disease ran their course according to this form. The affections of cranial nerves depend usually on their implication in the infiltrated pia mater at the base, or on a primary affection of their trunks. The hemiplegia is obviously due to changes in the central ganglia, not of themselves syphilitic, but resulting from temporary or permanent obstruction of blood-supply. But on what does the somnolent condition depend? HEUBNER believes that it is

the result of the narrowing of a number of arteries, in consequence of which there is diminished momentum in the capillaries of the region supplied by them, and consequent congestion and defective oxidation. He accounts for the temporary recoveries by the possibility of the nervous substance becoming gradually accommodated to the change of vascular tension. He does not state how often there was present extensive disease of the dura mater, nor does he refer to this as productive of any symptoms, so that the speculation, though ingenious, seems to require further confirmatory evidence.

The third form described by HEUBNER resembles very closely ordinary general paralysis of the insane. It differs, however, in the comparative infrequency with which delusions of exaltation are observed, and in the fact that exacerbations in the psychical symptoms often coincide with the outbreak of fresh syphilitic eruptions, or other local affections of bones, throat, nose, &c. Later on, transient and irregular paralyses are observed, which come and go in a very rapid manner. Still the distinction from some cases of paralytic dementia is not easy to define. This form seems to occur at a much earlier period than is usually the case with those previously described; and, unlike them, it is unassociated with any gross anatomical lesions, at least none have as yet been discovered in recorded cases. We have little doubt that microscopic examination will show that equally distinctive, though less obvious, changes occur in this as in the other forms. Of the three forms thus described, HEUBNER states that the second, that dependent upon or associated with arterial disease, is the most rapidly fatal, and may lead to speedy death by apoplectic fit, followed by coma, multiple thrombosis of several important arteries being found after death. Several cases of this nature were described during the recent discussion at the Pathological Society.

We have thus outlined the chief points of HEUBNER'S description, which, if it is perhaps somewhat too precise and definite, is at least a valuable attempt to classify and arrange on anatomical grounds a highly variable and complex disease. There can be no question that the prognosis is very greatly influenced by the site and nature of the affection. But on this point, and on the question of treatment, we must refer to the original article.

WE make no apology for discussing the Report of the Select Committee appointed to inquire into the "most efficient means of providing for the security from loss of life and property by fire in the metropolis." All that concerns the prevention of risk to human life must needs have special interest for a profession devoted to the avoidance of premature death. There is the greater reason why attention should be directed to this topic in these columns, because the subject which the Committee was constituted to investigate—in common with the majority of subjects relating to personal concerns—has distinctly medical aspects. If the true place and work of Medicine in the State were recognised, no committee or board entrusted to deal with matters of the class to which this belongs could be deemed complete without the medical element. In short, there are phases of the question which must either be overlooked or inadequately understood in the absence of such light as the science of life and health is alone able to bring to bear upon them.

At the threshold of the "fire" question lies a fact strongly illustrative of the position we have assumed. The mortality directly attributed to accidents by fire represents only a part of the loss of life distinctly traceable to this calamity, and takes no account whatever of the mischief done to health of body and mind by the same cause. The records of hospitals and asylums for the insane would supply a terrible catalogue of sequelæ, the unrecognised but well-attested consequences of fires reported to have entailed "no injury to life or limb." From the existence of this contingent list of evils rises a new and powerful plea for better precaution against the risk to which the dwellers in populous districts and frequenters of theatres and places of public amusement are especially exposed. Moreover—and this gives peculiar force to the argument,—it is in great part from what are commonly held to be small and readily extinguished fires, these evil consequences ensue. "With the utmost promptitude," says the Select Committee, "the arrival of the firemen and the turncock cannot take place until after the lapse of a considerable number of minutes." It is during this interval, between the discovery of a fire and the arrival of the skilled corps provided to render assistance, personal injury, perhaps irreparable, is inflicted. The panic, the intense excitement, often amounting to an agony of fear, the frantic effort to escape and to save those around, are, in most instances, practically over before the brigade can reach the spot; and it is in this first onset of the calamity the mischief is done. For one person actually burnt there are probably twenty suffocated, injured by falls, scared into life-long imbecility, or in some other way seriously hurt. Much, if not the major part, of these disasters might be avoided if the recommendations of the Select Committee were carried into effect and, the Fire Brigade being annexed to the police, every constable on night duty could be instructed in the art, and provided with the means, of rendering effective assistance in the first moment of peril at a fire occurring within his beat. The knowledge that help was so near at hand would, in itself, operate as a source of confidence and an incentive to self-control, not a little conducive to the escape of inmates. Strangely enough, the Select Committee does not appear to have perceived the force of this very strong argument in support of its own proposals. Throughout the inquiry, and in the report, considerations relating to the safety of life have been too much subordinated to those affecting the preservation of property. Unfortunately the two phases of this very important question are not identical; they are not even always capable of being comprehended in the same aim, and when this is the case, humanity requires that the claims of life should be preferred. This obvious demand has not, we think, been clearly recognised.

Beyond question, the machinery of life saving and fire-extinguishing should be brought under one control, and we believe the Select Committee is fully justified in recommending that the whole business should be taken out of the hands of the Board of Works and transferred to the police, an Assistant-Commissioner—of course Captain SHAW, who reconstructed and organised the Fire Brigade—being appointed to that office. Meanwhile the water companies,

if their existence is prolonged, should be compelled to adopt the system of constant supply, and the streets should be so provided with hydrants that the means of extinguishing fire may be available at the moment of outbreak or discovery. If this obligation should accelerate a solution of the "water question" and hasten the transfer to a public authority, we shall have double cause for gratification, in the prospect of sanitary improvement opened up not less than the increased security gained. Any change which may tend to place the water-supply on a good footing would be welcome, and we are glad to find the Select Committee has interpreted its duty with sufficient breadth to include a specific recommendation to the effect we have so long and strenuously urged. It is equally important that the authority exercised over places of public resort, such as churches, chapels, rooms of assembly, theatres, and music-halls, should be so reconstituted as to secure the maximum of safety. Upon this last point we doubt whether the Select Committee has done wisely in recommending that the duty of examining and certifying plans for new structures, as well as altering those which exist, should be entrusted to the Metropolitan Board of Works, while the Lord Chamberlain and the justices are empowered to inspect and enforce regulations. This divided authority will never work. It would have been better to give the Lord Chamberlain general control over all places of concourse, and provide his office with a board of experts. If this obvious scheme had been carried out, we might have hoped to see the neglected subject of ventilation properly cared for. As it is, frequenters of crowded places of assembly not only incur the risks of fire and panic, but are exposed to blood-poisoning by foul air in a fashion reckless and unjustifiable. Nothing except a central authority gathering the whole necessary precautions against risk of all kinds in one focus, and enforcing compliance with the rules of prudence, as laid down by a standing committee of experts, can suffice to meet the emergency. It would be manifestly absurd to perpetuate the present anomalous system of jurisdiction by which theatres well within the metropolitan district are exempted from the control of the Lord Chamberlain; and no improvement as regards safety or health can be anticipated if the supervision of new and allied works is to be entrusted to the Metropolitan Board, while the periodic "inspection of their buildings" and the working arrangements is to be confided to the Lord Chamberlain and the justices. It would be far better, as we have said, to place the whole under the control of the Lord Chamberlain—who must, as a matter of fact, supervise the administration of places of amusement,—and provide that official with a council of experts with at least one efficient sanitary member to represent the claims of public health.

The question raised by this inquiry, and the report of the Select Committee, are by no means restricted in their application to the metropolis. The considerations involved are universal. Wherever habitations or places of assembly exist similar risks obtain, and the precaution for safety must be substantially the same. It is, we think, to be regretted that the instructions given to the Select Committee did not include the search for remedies and safeguards against the evils of fire which might be provided by householders. For example, the time has certainly arrived when a hydrant and hose might with advantage be made part of the fittings provided by a landlord. If such an appliance existed at a known spot, say in the area, at the street door, or on the roof of every dwelling-house, aid might be rendered without an instant's delay, and in many cases the inmates might themselves extinguish a fire before it reached unmanageable proportions. The provision of domestic fire-escapes might also be rendered compulsory, and it would not be too much to require that means of egress from every crowded house should form a part of the original plan, and be preserved intact in any subsequent alteration. The details of security have been avoided in this report. It is doubtful whether the Select Committee can be held responsible for the omission to grapple with these difficulties. It would seem that the terms of the reference did not even suggest giving so practical a turn to the inquiry. This is to be regretted. Meanwhile, for the attention which has been bestowed on this pressing subject, and the principal recommendations urged on the consideration of Parliament, we cannot but feel grateful. The outcome should be a change for the better, if not all we could desire.

The late increase of emigration from the United Kingdom to Australia and New Zealand, the rapid development of Cape Colony and the neighbouring districts, and the recent organisation of port sanitary authorities in England, have directed the attention of all interested in the dissemination of disease by ships to the regulations that exist, or should exist, to meet the difficulty. The old quarantine laws are practically abolished, and are, in fact, never enforced by the Customs except in cases of plague, yellow fever, or cholera. But the officers of Customs still ask a string of sanitary questions before boarding any vessel, and have recently obtained the conviction of a captain in a penalty of £200 for making false answers to these questions. As a matter of fact, however, many cases of contagious disease escape the notice of the Customs, or are discovered by them after the ship has been cleared at the entrance of the port. As the matter now stands, the onus of preventing the importation and dissemination of epidemic disease in our ports rests entirely with the port sanitary authorities. They may, should, and in most cases do, receive valuable and early intelligence from the Customs, but unless cholera exists on board, they cannot stop a vessel on her way to the dock. The only feasible plan, therefore, is that adopted by the sanitary authority of the Port of London, and, as we believe, now by the authorities of most of the outports. Information having been obtained as to the presence of epidemic disease, the ship is boarded by a sanitary officer immediately after she has come to moorings. The sick are removed in an ambulance to the nearest proper hospital, the quarters and belongings of the sick are taken possession of and fumigated, disinfected, and otherwise cleansed under supervision. The obvious weakness of this plan exists in the fact that the questions asked by the Customs at the entrance of the port are not always truthfully answered. But reports as to work done in the Thames show that this plan affords a fair guarantee for prevention, and at the same time a minimum of obstruction to commercial interests. But we

think that power of detention and isolation for, say, forty-eight hours ought to be given to port sanitary authorities in all cases where contagious and infectious diseases are known to exist or to have existed on board during the passage.

But in spite of all that has been said and written about the futility of the old system of quarantine, it appears to be practised at most, if not all, our colonial ports in the ancient and objectionable form still carried out by some few—happily very few—continental nations. We will take Cape Colony as an example, because a notable instance of this barbarous procedure has recently occurred. A mail steamship arrived in Table Bay some three months ago from England, with a case of small-pox on board. The authorities immediately ordered the vessel, with her crew and a large complement of passengers, to an anchorage many miles away, and kept her there for twenty-one days. No means of separating the sick from the healthy were provided, as there is neither hospital-ship nor anything analogous to the old objectionable lazarette. At the end of the term the ship returned, and we believe went into dock to discharge passengers and cargo, both having been unnecessarily subjected to forty instead of nineteen days' association with small-pox. However, soon after the vessel had moored another case of the disease was discovered, and the vessel with her unfortunate crew was again sent off for another three weeks' probation. We have not yet heard the ultimate result of this extraordinary sanitary system, as it has affected the case under consideration. But, with certain immaterial minutiæ, the same plan is adopted in Australian and New Zealand ports. It is no novel occurrence for emigrant-ships arriving at Adelaide to be quarantined for an entire month on account of measles, scarlet fever, &c., while the arrangements made for the treatment of the sick, and the accommodation of the healthy, are deplorably, and it may be honestly said disgracefully, deficient. If the link between the mother country and her colonies is not to be broken, the latter, on account of commercial as well as vital interests, should not disdain to take a leaf out of the book of the former. The system as above exemplified is barbarous, unscientific, and utterly insufficient to secure the colony interested against the importation and dissemination of any variety of zymotic disease.

Annotations.

"Ne quid nimis."

PUBLIC HEALTH IN ENGLISH WATERING PLACES.

THE Registrar-General, in his Quarterly Return just issued, publishes his accustomed health bulletin relating to our English watering places during the three months ending June last. Looked at generally, the recent mortality statistics of the registration districts, containing forty-six of our principal inland and seaside holiday and health resorts, are eminently satisfactory, and give evidence of a sanitary condition which may safely be said to be unequalled by similar places in any other part of Europe. The area taken to represent these forty-six watering places is estimated now to contain a population slightly exceeding a million of persons, among whom the average annual death-rate during the three months ending June was but 18·0 per 1000, and 3·5 per 1000 below the average rate in the whole of England and Wales. The rate was 17·8 in thirty-seven seaside resorts, and 18·6 in nine inland watering places. The seaside towns are situated around the coast of England and Wales, from Whitby on the north-east, to Blackpool on the north-west. They vary in size from Brighton, with a population exceeding 100,000, to Bognor and Lyme Regis, each with but three or four thousand inhabitants. Although most of the registration districts taken to represent these watering places include a considerable rural area, the most characteristic of their population is urban, and the death-rate of 18 per 1000 may be regarded as favourable. In many of the smaller places, taken individually, the figures for a single quarter are not sufficiently large to afford any trustworthy indication of sanitary condition, however safe such a conclusion may be as regards the aggregate population. It would not, however, be wise entirely to disregard the facts published showing the recent zymotic fatality in these towns. The annual death-rate from the seven principal zymotic diseases averaged last quarter 1·5 per 1000 persons living in the 46 watering-places, and slightly exceeded the rate which prevailed in the corresponding period of last year. This excess appears to have occurred mainly in the inland places, where zymotic fatality was excessive in Bath and Harrogate. Among the seaside places the zymotic death-rate was less than 0·5 per 1000 in Lyme, Beaumaris, Margate, Dartmouth, Bangor, and Teignmouth; whereas it exceeded 2 per 1000 in Whitby, Lowestoft, Dover, Bognor, Weymouth, Penzance, Tenby, Llandudno, New Brighton, and Blackpool. It should be remembered that in some of these smaller towns half-a-dozen deaths from measles or scarlet fever or whooping-cough make up an excessive zymotic death-rate; that it is quite possible that these deaths may have occurred so long ago as April or May, and that the town which appears in the Registrar-General's list with a high zymotic death-rate may now be entirely free from such form of disease. It is advisable, however, that the bearing of the facts shown by these statistics should be borne in mind in the selection of a health or holiday resort at the present time. Take, for instance, the first two towns on the list. Whitby shows a death-rate of 23·7, and a zymotic rate of 2·0, whereas the rates for Scarborough are only 18·4 and 1·2. Without affirming that these figures accurately gauge the sanitary condition of the two places, it would be a wholesome sign of a growing appreciation of the importance of public health if their import had some weight in a choice between Whitby and Scarborough as a present holiday resort. Similar considerations should weigh if the choice happened to lie between the last two places in the list; between Harrogate, with a death-rate of 22·8 and a zymotic rate of 3·2 on the one hand, and Matlock with rates of 18·0 and 1·4 respectively.

SCIENCE AT PLYMOUTH.

THE middle of this present month will be remarkable in the annals of "sunny Devon" for such a gathering together in Plymouth of the votaries of science as will severely tax the capacity of that famous old western town in the matter of finding room to accommodate its visitors. The British Association, the Society of Pharmaceutical Chemists, and the Society of Analysts, will all be assembled in session at the same time—let us hope without any clashing of interests or arrangements.

The British Association will commence its business on Wednesday, August 15th, when, at the general meeting to be held at 8 P.M., Professor Andrews, M.D., F.R.S., will

resign the presidential chair, and the President elect, Professor Allen Thomson, M.D., F.R.S.L. and E., will deliver the inaugural address. Thursday evening will be devoted to a *soirée*; on Friday evening Professor Warington Smyth, F.R.S., will discourse on the Physical Phenomena connected with the Mines of Cornwall and Devon; on Monday evening there will be an address by Professor Odling, F.R.S., on the New Element, Gallium; on Tuesday evening there will again be a *soirée*; and the concluding general meeting will be held on Wednesday afternoon. The Sections will assemble daily at 11 A.M., under the presidency of the following gentlemen:—(1) Mathematical and Physical Science, Prof. G. C. Foster, F.R.S.; (2) Chemical Science, F. A. Abel, F.R.S.; Geology, W. Pengelly, F.R.S.; (4) Biology, J. Gwyn Jeffreys, LL.D., F.R.S. (who will also take special charge of the Department of Zoology and Botany, while the Department of Anatomy and Physiology will be under the presidency of Professor Macalister, M.D., and Sir Walter Elliot, F.R.S., will preside over the Department of Anthropology); (5) Geography, Admiral Ommanney, F.R.S.; (6) Economic Science and Statistics, Earl Fortescue; (7) Mechanical Science, Edward Woods, C.E. There will, of course, be the usual pleasure excursions, and visits to industrial and other establishments, without which it seems to be taken for granted that no programme of an annual congress of persons supposed to be deeply interested in the progress of science would be complete.

Should the weather prove favourable a visit to Plymouth during the Association meeting can hardly fail to be productive of interest and pleasure. The splendid new municipal buildings, including a noble guildhall, will be (it is understood) the head-quarters of the Association; there is abundance of lovely country within easy reach, while the resources of the great dockyard will no doubt be fully open to inspection. We may, however, remind such of our readers as may be contemplating attendance at the Association meetings that they should lose no time in securing sleeping accommodation. Three of the best hotels have already had the whole of their beds engaged, and good private lodgings are fast becoming unobtainable.

THE MOVEMENTS OF THE BRAIN IN MAN.

PROF. MOSSO and Signor Giacomini have had the opportunity of observing the movements of the brain in a woman who, in consequence of syphilis, had lost the greater part of the frontal and parietal bones. The method adopted was the application of a Marey's *explorateur à tambour* to the exposed surface, the movements being registered on a rotating cylinder. An examination of the curves showed that the brain presented three kinds of movements. The movements of the first order consisted of pulsations dependent on the contractions of the heart; those of the second order were oscillations embracing several pulsations, and corresponding to the movements of respiration; those of the third order were undulations of still longer duration, embracing a series of oscillations and pulsations. When the movements where examined in the patient whilst at perfect rest, the curves exhibited a fall in their mean height during inspiration, and a rise during the succeeding expiration, attaining its maximum at the end of the expiratory act. The form of the cerebral pulsation differed from that obtained from an artery by means of a sphygmograph. During sleep the pulsations were better marked than in the waking state; and when the patient snored the influence of the respiratory movements was very strongly expressed. The movements of the third order corresponded with those which Prof. Mosso himself originally observed in the forearm of man, and described under the name of "spontaneous movement." They occur when the patient is at perfect rest, both mental and bodily, and even during sleep. Compression of one carotid diminishes the movements of the brain, and of both, arrests them; but as soon as the pressure is released the movements recommence, the amplitude of the curves being temporarily much increased. Compression of the jugulars causes great increase of the amplitude of the curves formed by the pulsations. The size of the brain becomes augmented, and quickly reaches its maximum, but diminishes again if the pressure on the veins be maintained. The compression of the veins causes the pulsations to be much higher, and even when the pressure on the veins is removed, the same condition continues for some time as an after-effect. As the blood flows away from the brain it becomes smaller, and only gradually rises to its former height. But since the contraction is considerably greater than the antecedent enlargement of the brain, Mosso refers it to a contraction of the bloodvessels. The supply of blood to the brain is so much diminished by a few deep inspirations that the pulsations become as little observable as during compression of the carotids. Changes occur in the movements of the brain with every movement of the body, and with every change in the activity of the mind.

RUSSO-TURKISH "ATROCITIES."

IT would appear as if we were about to be plunged into a war of protests regarding the asserted Russo-Turkish "atrocities," in which the special correspondents of the different journals with the armies in Bulgaria and Roumelia are to be the combatants. Last week we referred to a protest signed by sixteen special correspondents with the Turkish army, including the correspondents of the principal London journals, against certain alleged "atrocities" of which the Russian soldiery had been guilty. Russian journals now announce the issue of a counter-protest signed by twenty special correspondents with the Russian army in Bulgaria and Roumelia. The text of this protest has not yet reached us.

A naval correspondent of *The Times* (30th July) throws an instructive light upon the sources of "atrocities" in the districts lying between the two armies in Bulgaria. He describes a village from which the Mahommedan population fled on the reported approach of the Russians. The Bulgarian population at once arose and destroyed the Mahommedan quarter utterly. The Russians did not approach the village. It was occupied by a body of Turkish irregular cavalry, who dealt with the Bulgarian quarter as the Bulgarians had dealt with the Mahommedan. This correspondent visited the village, and could not "find the slightest trace of massacre." Nevertheless, another correspondent of *The Times*, whose communication appears in the same paper, writes of helping to dig out the bodies of persons who had been massacred by the irregular cavalry in this village, states that the number massacred must have been hundreds, and adds that the stench of the place was awful. The first-named correspondent writes from the sacked village under date the 17th July, the second from a neighbouring locality on the 19th July, describing his assistance as having been given the day before! The sacking took place between the 14th and 17th.

The Times special correspondent with the Turkish army in Armenia discounts Turkish reports of Russian atrocities in advance, by stating that he had at the time of writing (6th July) been following in the wake of the Russian army for a week without seeing a trace of misdeeds; and he adds that the Russians seem to have behaved with moderation, and to have paid for everything consumed. On the other hand, he tells an ugly story of probable murder of wounded

Russians on the field of battle by the Turks, and the execution at the moment of two captured Russian letter-carriers, natives of the district.

THE ACCIDENT TO PRINCE AMEDEO.

THE grief that lately overspread Italy at the death of the young Duchess of Aosta was nearly being renewed the other day in the case of her husband. Prince Amedeo, it seems, was trying the paces of a couple of horses, one a favourite saddle-horse and the other a recent purchase, in a break which he drove in person through the streets of Turin, when the animals suddenly shied, started off at a furious gallop, and would have dashed against the first obstacle they encountered, when His Royal Highness leaped out of the vehicle to save himself. He was thrown with much violence against a tree, and was lifted from the ground senseless, and conveyed into a private residence hard by. Medical aid was instantly at hand, and presently the Prince came to himself, and, in answer to the doctor, complained of a severe pain in the head. He was able, however, with support, to mount to the first floor, where better accommodation was provided; but had hardly lain down, when he was seized with a strong convulsive fit of nearly seven minutes' duration. Two others followed in quick succession, till Drs. Bruno and Gamba arrived, and the anodyne lotions they applied prevented the return of the fits. On examining His Royal Highness they found that while the arm, the spine, and the right eye had sustained unimportant lesions, the frontal region had borne the brunt of the fall, and was very severely contused. Next morning Drs. Bruno and Gamba were able to issue their first bulletin to the effect that the night had been comparatively good, that consciousness had returned, that the convulsive movements had ceased, and that no symptoms of paralysis or febrile disturbance had supervened. His Royal Highness slowly but steadily improved, and in the course of the day was well enough to be moved to his own palace, where his cousin, the Prince of Carignano, was shortly at his bedside. He may now be pronounced out of danger.

GEOGRAPHY OF DEVONSHIRE AND ITS RELATION TO CONSUMPTION.

TAKING the limited area of Devon, Dr. W. Pearse, in an interesting contribution to the Journal of the Plymouth Institute, has studied the physical, social, and other conditions affecting the distribution of phthisis in that county. The districts specially examined in this paper are those of Tavistock, Plympton, Newton, St. Thomas, Barnstable, South Molton, and Axminster. Dr. Pearse has constructed valuable tables showing the death-rate per 1000, male and female, for ten years, the geological formation, and the acres to population. From these tables it can be seen that the granite region of West Dartmoor and the Devonian formation west of Exmoor are almost free from consumption. These are districts, as Dr. Pearse observes, of "rains, mists, westerly winds, relatively pure air, excess of ozone, and of active atmospheric physical change of a general out-of-door life of the population." On the other hand, the death-rate from phthisis is generally higher in the registration districts of South Devon and Eastern Dartmoor, even if we exclude those resorted to by consumptive patients. In the Axminster district the death-rate from phthisis for women is considerably higher than for men. This difference no doubt can be accounted for by the close rooms of the "schools" of the lacemakers. A similar explanation applies to the high death-rate of women who make gloves in their own cottages at Torrington. Finally, Dr. Pearse shows that the least mortality from phthisis occurs on the granite and Devonian formations, and the highest on the carboniferous, Riverine and Devonian, and the Bovey beds. Dr. Pearse has done good service in the arrangement of these statistics, and we hope others will follow his example in the collection of similar facts respecting the mortality of the districts in which they reside. The study of the geographical distribution of disease ought to be a recognised feature in all health reports.

THE NORTHERN COUNTIES SANITARY ASSOCIATION.

THE annual meeting of the Northern Counties Association of Medical Officers of Health was held on the 5th ult. at Chollerford, when the new president, Dr. Maclagan, delivered an inaugural address. He summarised the advances made in general sanitation during the past few years, and urged very strongly the importance of teaching the working and poorer classes the value of healthy homes. After explaining that medical officers of health were not as a body endowed with sufficient power for the satisfactory accomplishment of their duties, Dr. Maclagan, in discussing plans for the registration of disease, enunciated somewhat emphatically the opinion that medical attendants (as well as householders) should be responsible for furnishing the requisite information to the sanitary authorities as to cases of infectious disease that occur in their practice. It was stated that in New Zealand and in some of the American States registration of disease has been established to a certain extent, and that in Holland (as is well known) the system is in proper working order, Dr. Egeling, the chief Government medical inspector, having quite recently testified most strongly in its favour. The speaker, having called attention to the unsatisfactory mode in which deaths were still registered in this country, closed an able address, which was heard by a large and distinguished audience of scientific men.

HEALTH OF CUSTOMS OFFICERS.

THE annual report of Dr. Walter Dickson, R.N., Medical Inspector of Her Majesty's Customs, has lately been published, and contains as heretofore much that is useful and instructive as regards the sanitary condition of the adult middle-class population in connexion with that very important subject the registration of disease. The total number of officials under the care of Dr. Dickson and his colleague at Gravesend is 932, and of the London or chief staff the mean daily number on the sick list was 21·7 or 3·3 per cent. in strength, as compared with 3·6 per cent. in the previous year. The mean duration of each case of sickness was twenty-four days, and there were 6 deaths, or 0·9 per cent. of the force. Only one officer was superannuated. The author calls attention to the favourable character of the year, the remarkably low death-rate and superannuation, the trifling number and character of the cases of small-pox, and the continued immunity of the Gravesend officers from infectious maladies, although, as is remarked, they have free communication with vessels, cargoes, crews, and passengers from all parts of the world.

MR. WARD HUNT.

THE regretted death of Mr. Ward Hunt, First Lord of the Admiralty, must, we fear, be, to some extent at least, attributed to "overwork;" not perhaps in the hackneyed use of that abused term, but in its true signification. Mr. Hunt has for years past manifestly laboured under a condition in which the vital powers were exhaustively employed in maintaining the health of an organism severely taxing their utmost resources. The right hon. gentleman was gifted with a large stock of energy, and he was proportionally sensitive. On the assumption of office he threw

himself impetuously into work, and encountered many difficulties, which told on his strength. He has continuously laboured in the department under his control, and a pre-existing tendency to the gouty diathesis determined the course of his malady. Successive attacks acting on a constitution by no means well supported by reserve force, produced a condition in which exhaustion was the evil to dread. A weak heart, with flabby walls, but no valvular disease, was inadequate to the work thrown upon it. Homburg had, on previous occasions, suited him well, and, it was hoped, entire relaxation from mental labour, change of air, and physical rest, would enable him to tide over the difficulty. The journey was made under circumstances as propitious as could well have been desired; but the anticipation of benefit was not realised. The immediate cause of death was, doubtless, failure of the heart's action, and it seems probable that, although gouty inflammation of the joints was relieved before Mr. Ward Hunt left England, there may have been some retrocession of the disease. His medical attendant in England was Mr. John Morgan. Dr. Garrod saw the patient twice in consultation.

DR. SAYRE AT BIRMINGHAM.

THE visit of Dr. Sayre to Birmingham to give a demonstration at the Queen's Hospital of his method of treating curvature of the spine was the occasion of a very large assemblage of practitioners and students in the operating theatre of that institution. The medical staffs of the General, Queen's, Orthopædic, and Children's Hospitals were represented, and many of the surgeons had brought cases suitable for Dr. Sayre to demonstrate from. He selected two cases of lateral curvature and one of angular curvature for the application of the plaster-of-Paris bandage, and in all the cases the operation appeared to be well borne by the patients, and to afford them comfort rather than inconvenience. Each patient was accurately measured by independent parties prior to the use of the plaster apparatus and afterwards, and each seemed to have gained in height, from half an inch to an inch and a half being added to their stature. Dr. Sayre's lecture, which occupied nearly two hours, was listened to with marked attention, his quaint, humorous manner of expression often eliciting loud applause, and his earnestness in enunciating the principles on which his treatment is founded convincing his audience of his thorough confidence in the efficacy of his system of treatment. At the conclusion of the demonstration a cordial vote of thanks was moved by Mr. West, seconded by Mr. Furneaux Jordan, and unanimously accorded to Dr. Sayre for his praiseworthy efforts to make his treatment generally known, and for his courtesy in paying a special visit to the midland district.

A LONDON CONSULTANT'S FEES AND AN ARGUMENT THEREFROM.

WE do not know to what extent hospital teachers in London do the work of general practitioners, or on what terms they do it. But a curious letter has been forwarded to us, which makes us somewhat uneasy on the subject. It raises unpleasant suspicions that there are practitioners of repute, lecturers at hospitals, and presumably consultants, who do the work of general practitioners, and do it on such easy and undignified terms that when families get back into the country and require the services of their regular adviser they forget how to requite him, and in defence of their ungenerous appreciation of medical services write to their London physician and receive an answer from him which fortifies them in their resistance to reasonable demands. From this letter it would seem that the writer (the consultant) charges, for seeing five children at two visits, "only one guinea"; that is, something less than half-a-crown per patient, and that his usual scale of fees is of a correspondingly modest order. We enter a most decided protest against a consultant allowing himself first to be used as a third-rate general practitioner and then to write a letter, on the strength of which people who ought to know better fulminate an uncourteous and an unjust charge against their medical man. Moreover, we warn such people that medical wisdom is not confined to the ranks of consultants, and that general practitioners whose advice is worth seeking have very much the same education to go through, and very much the same advice to give as consulting ones, and must be paid as professional men.

DEATH OF SAMUEL WARREN.

THE decease of the author of the "Diary of a late Physician" cannot be allowed to pass without regretful remark. Mr. Samuel Warren was made Master in Lunacy in 1859, and has not of late years been much before the reading public. His last considerable work was a novel—"Ten Thousand a Year,"—but it is by the "Diary" he will be remembered. When a student of medicine at Edinburgh University nearly half a century ago, Mr. Warren obtained that acquaintance with the more personal aspects of our profession which he evinced throughout the series of papers in *Blackwood* afterwards published as the "Diary." It is impossible not to lament the loss of one who will live in memory as a rare exemplar of the art which produces pictures in words.

THE HOUSE OF COMMONS.

IT is impossible to pass unnoticed the position of matters in the House of Commons. If "obstruction" be undignified it should not be forgotten that dignity may be sacrificed in the endeavour to oppose obstruction. There is, we fear, ground for the apprehension that in the attempt to antagonise a disorderly use of the forms of debate, some of the worst evils of disorder may be produced. The *rationale* of the treatment adopted apparently takes the shape of an endeavour to exhaust the energy of obstruction. This method may be carried too far; it may call into operation new forces which will possibly intensify the confusion. Why not fall back on the time-honoured and hitherto successful method of prompt "division"? If those who prefer progress in fact to "progress" in the Parliamentary sense would decline the combat of words and "divide," with the ready aid of an intelligent chairman, business could be pressed forward with reasonable celerity. While every word uttered by obstructives is treated as a new bone of contention, the confusion must be prolonged. It was not thus when on either side of the table sat an acknowledged leader. The business of the country can scarcely be well done by men wearied with night-long contention, exhausted in body and brain, and with minds debilitated and obscured.

AN INDECOROUS PROCEEDING.

IT is mentioned incidentally in the report of a recent execution at Stafford that a prisoner charged with murder "was walked past the scaffold" while the body was still suspended, and that he "looked with great coolness upon the sad spectacle." It is impossible to characterise this proceeding otherwise than as most indecorous. If the prison arrangements are such that a prisoner must needs pass the scaffold, his removal should be so timed as to avoid an obvious violation of the obligations of decency. The man so treated is stated to have been on his way to the Justices'

Court, and his demeanour is noted in the public papers. It is in no sentimental spirit we direct attention to the matter. We think it of sufficient gravity to call for the censure of the Home Office. To some extent the position of this man is prejudiced by the reports on his demeanour. He will be classed as a hardened criminal. If he had shrunk from "the sad spectacle," we presume that would have been held to be evidence of guilt. Public opinion will not tolerate the revival of the "ordeal by sight." The occurrence should be investigated. It leaves an unpleasant impression which ought to be removed.

THE HEAT AND "CHILLS."

WITHOUT daring to forecast the weather of the week before us, it may not be out of place to repeat the warning already given, that excessive or unusual heat in this intensely variable climate is accompanied by special perils of what is popularly known as "chill," or cold-catching. It is always difficult for the organism to accommodate itself to the critical and sudden variations of temperature to which we are exposed, and the difficulty is increased tenfold when the powers of resistance are enfeebled by heat to which the body is unaccustomed. Added to this, under the oppressive sense of an inordinately dry atmosphere, coupled by the lassitude produced by unusual perspiration, there is a strong provocation to run risks which sin against prudence. The prevalence of sore-throats, rheumatism, and the conditions commonly ascribed to "cold-catching," affords proof of the care needed to ward off peculiar dangers, from which the system is, at the moment, especially ill-able to defend itself.

OUR SAILORS AT SEA.

THE daily journals, each and all, have had, during the past week, conspicuous articles or paragraphs respecting the unfortunate crew of a colonial vessel, most of whom, according to statements made, were rendered unfit for duty, and at least six died, in consequence of putrid, rotten, or diseased meat having been served out to them as daily rations at sea. It is reported that an official inquiry has been ordered, and, as we hope, the Board of Trade have by this time made their report. We may assume that this Department has some control over colonial ships, but if the dilatory action, as in cases of scurvy, commented on by us last week, is pursued in this case, the ends of justice will be, as they have been in many other instances, conspicuously defeated. No more glaring instance of the ill results produced by bad provisions could possibly be adduced than the case of the *Royal Sovereign*, reported on last year. But unless the Board of Trade so manages its machinery that an inquiry is ordered within forty-eight hours, at most, after the arrival of the ship at a British port, the result will be worse than nil. In point of fact, the Marine Department at Whitehall is so overweighted that these sanitary matters fall into the hands of junior clerks, who can have no means of judging as to the actual or comparative gravity of the cases brought before them, and so at least a week or more elapses before an inquiry is ordered.

HEAT AND NOISE.

NOT only are street noises more noticeable in weather during which it is thought desirable to throw every window open as widely as may be practicable, but, owing to the dryness of material, generally, the vibrations which produce sound are more strongly marked, while the sense of hearing is preternaturally acute. In this way it is easy to account for the excessive rattling of wheels over stones, macadamised road, and even wood-paving, which must have impressed most persons painfully during the recent heat. Something would be gained if the streets were more thoroughly and frequently watered. It is not enough to "lay the dust," the surface should be well moistened to counteract some of the mechanical effects of evaporation. The loose particles need to be bound together, and their harsh grating friction prevented. This may seem a small matter, but to invalids and excitable temperaments noise is more than an annoyance; it impairs the health of body and brain.

THE BRITISH MEDICAL ASSOCIATION.

THE annual meeting is fixed for the 7th, 8th, 9th, and 10th inst., at Manchester. The President is M. M. de Bartolomé, M.D., senior physician to the Sheffield General Infirmary; the President elect, M. A. Eason Wilkinson, M.D., senior physician to the Manchester Royal Infirmary. The Address in Medicine will be by Dr. Roberts, F.R.S., of Manchester; in Surgery by Mr. Spencer Wells; and in Obstetric Medicine by Dr. Robert Barnes. The proceedings will be in six sections. The general meeting and President's address are down for Tuesday, August 7th. The arrangements are complete, and promise a pleasant *réunion*.

INFLUENCE OF POSTURE UPON CARDIAC MURMURS.

THERE is no doubt that the position of a patient has much to do with the comparative intensity of endocardial murmurs. It has been several times pointed out that a murmur audible when the patient is recumbent is almost if not entirely lost in the erect posture. This effect of posture seems to tell more upon mitral than upon aortic bruits, but all cardiac murmurs seem more or less influenced by it. The subject has recently been studied by M. Cuffer, of Paris, who has come to the following conclusions:—That all intracardiac bruits, of whatever nature, are modified by the patient passing from the horizontal to the vertical position. That they are all diminished in intensity in the erect posture. That this diminution is partly due to change in the form of the heart, and partly to alterations in the arterial tension, by which the number and force of the cardiac contractions may be altered. Further, that all murmurs are intensified in the horizontal posture, some even being only produced under this condition. He adds that inspiration increases the intensity of a murmur.

MADEMOISELLE TITIENS.

THE last accounts of the health of Mademoiselle Titiens are favourable. Her own conviction is that if she had been in London on the 26th she could have sung, and without much diminution in the power of her voice. But it was thought advisable to refrain from any exertion, as she is engaged to appear at the forthcoming festivals at Gloucester and Leeds. Mr. Harris of Worthing, and her ordinary medical adviser, Dr. Howell of St. John's wood, have been in attendance. Mr. Spencer Wells saw her on the 11th of July at Worthing. The symptoms were then suggestive of chronic peritonitis; but the amendment has since been encouraging.

CHILD MURDER FOR GAIN.

THE hideous crime of child murder admits neither of excuse nor extenuation, but it is aggravated to the highest pitch of enormity when the innocent victim is put to death for gain, and when the atrocity is committed in the way of business, what amounts to a covert offer being advertised and a bargain made. There is no ground upon which we can ask the intervention of the Home Secretary in the case of the wretched woman Todd, who was sentenced to death at Liverpool on the 27th ult. for the murder of an infant

entrusted to her with a premium of £10. Meanwhile it is inconceivable that any sane person supposed a young woman would take a child and bring it up as her own for so paltry a sum. The prisoner made a statement to the effect that the child was that of an officer. The culprit who placed the infant at her mercy ought to be traced. It should be made clear to those who seek to rid themselves of a burden thus vilely that they cannot escape responsibility for what may follow their cowardly act. If there were no parents anxious to procure the death of their offspring the occupation of systematic child murderers would be gone.

PRINCE ALBERT VICTOR.

THE course of the fever in H.R.H. Prince Albert Victor's case has up to the present time been satisfactory. An abatement of the temperature took place on the twenty-second day, and has continued. The fever process may be expected to end by Saturday next.

THE Scientific Grants Committee of the British Medical Association has recommended to the Committee of Council that the following new grants be made towards the expenses in aid of researches in medicine and allied sciences for the year 1877-78—viz., to Mr. W. H. Gaskell, Cambridge, a grant of £30 in aid of a research upon the nature of the reflex action of the vascular system and muscles, and reflex vaso-motor action generally; Mr. Longley, M.B., St John's College, Cambridge, £25, for research upon the changes produced in the salivary glands by nerve influence; Professor Rutherford, F.R.S., £50, on the action of cholagogues; Dr. Braidwood (Birkenhead), £40, for engravings to illustrate the third report upon the life-history of contagium; Dr. Pye, £8 15s., for continued research upon the investigation of the relation that the retinal circulation bears to that of the brain; Mr. Bruce Clarke, for continued research upon syncope and shock, £10. The Scientific Grants Committee will meet again, to consider further applications for grants in aid of research, at Manchester, on Thursday, the 9th instant, before which date communications should be addressed to the General Secretary of the Association, at the office of the Association, 36, Great Queen-street, London, W.C.

WE learn from the Annual Report of the Local Government Board for Ireland, which has been recently issued, and has been compiled with great care, that during the past year 45,531 persons were under treatment in the workhouses for various affections, including 6576 cases of fever, with a mortality of 10 663. Last year 481,331 new cases were attended by the various dispensary medical officers throughout the country, and 189,419 were under treatment in their own homes, making a total of 670,750. During the same period 114,487 persons were vaccinated or revaccinated, those under one year old when vaccinated amounting to 93,061, which can scarcely be considered as quite satisfactory, having regard to the number of children annually born in Ireland. Representation having been made that the annual grant of £400 to the Dublin Cow-pox Institution was inadequate, the Government increased the grant to £1200, and the institution has been placed under the management of the Local Government Board since the 1st of last April.

A CASE of hydrophobia occurred this week at Dulwich. A young man, who had been bitten in the thumb by a dog seven months ago, was attacked with symptoms of the disease on Saturday last, and died in about forty-eight hours. He was attended by Mr. Mathew, and was seen in consultation by Sir James Paget, Bart., and Dr. Buzzard.

DR. SAUNDERS, medical officer of health, has communicated to the Barnet Sanitary Authority the particulars connected with the deaths of three children living in one house at Finchley. One of these was attacked with erysipelas, another with diphtheria, and a third (newly born) with inflammation of the umbilical cord. Three other children were sent to the hospital with symptoms of diphtheria. The house in which these calamities occurred was occupied by a farm labourer, and appeared to be free from conditions likely to give rise to disease. Attention was then directed to the water-supply. This was derived from a well in Lord Mansfield's park, and was found to be polluted. The occupiers of Lord Mansfield's house and dairy, where water from the same well was used, were found to have suffered from repeated attacks of diarrhœa, notably at the time of the illness of the children above mentioned. The letter of Dr. Saunders was ordered by the sanitary authority to be forwarded to Lord Mansfield.

DR. YELLOWLEES' interesting course of lectures on Insanity to medical practitioners and students, delivered alternately at the University and the Asylum, was brought to a close on Thursday, the 26th ult., when the lecturer received a hearty vote of thanks. It would be well if practitioners in the west of Scotland could avail themselves more largely of the valuable instruction placed within their reach by these lectures of the able superintendent of Gartnavel Lunatic Asylum.

MR. THOMAS WALTON, medical officer of health of the Sculcoats Rural Sanitary Authority, has reported a severe outbreak of diphtheria in the Wold district, near Hull. Several of the cases have been fatal. Kirkellar School has been closed, and the closing of other schools is contemplated.

CREMATION seems to be progressing in Switzerland. The government of the canton of Zurich has just authorised the process, which is of course to be optional, and subject to certain restrictions.

A CONTEMPORARY reports that a series of lectures will shortly be given in Paris, at the Morgue, under the authority of the prefect of police. They will commence in November next.

THE WAR.

THE most graphic account which has yet appeared of the medical destitution of the Turkish army in Armenia is given by *The Times* correspondent with that force, under date July 3rd (*Times*, July 30th). The simple facts he recounts tell the story more emphatically and clearly than the general statements on which our information on the subject has, for the most part, previously rested. From this gentleman's account it would appear that Erzeroum has hospital accommodation for 1000 men, but that this was fully occupied by patients suffering from typhoid, dysentery, and pneumonia (the average daily mortality ranging from 30 to 40) before a single shot had been fired. The three actions of the 16th, 21st, and 25th July added to the sick in Erzeroum upwards of 2000 wounded. The hospitals being already overcrowded, these patients had to be distributed among the khans and houses in the neighbourhood of the hospitals. To attend to this mass of sick and wounded there were but eleven medical men; but, adds *The Times* correspondent, in words that need no amplification, "as the supply of medicines, bandages, and instruments was more limited even than the doctors, the suffering and privation of the wounded can hardly be imagined." The American missionaries in Erzeroum, the Rev. Messrs. Pierce and Cole, gave noble help to the few overworked doctors, but the

voluntary funds were exceedingly limited, and help from the aid committees in England had not reached the city.

With regard to the medical provision of the army corps to which the correspondent at the time of writing was attached, and which consisted of about 16,000 fighting men and 1000 followers, there were for this force two Prussian and three Turkish doctors, each of whom has his own small pocket-case. There was but *one* amputation case for the common use of the three doctors, and the stores at their disposal consisted of two cases of lint, bandages, &c., and two cases of medicine. Twenty tents were set apart for hospital purposes, but no beds, and there were neither ambulances nor litters for the wounded. This was the whole medical provision of the 4th Turkish Army Corps.

From the Russian forces on the Danube, or rather that portion of them which are campaigning in Bulgaria and Roumelia, there has been no detailed information of its medico-sanitary history since the passage of the river at Sistova. Suggestive of the coming, if not of the present, actual want of the Russian forces on the Danube is a recent notification that the committee formed at Kiev to furnish supplementary supplies of quinine for the troops has sent to the time of the notification a total of 681,000 doses. The importance of a contribution of this kind will be better understood when it is stated that there is a comparative scarcity of quinine at the present time, and the Russian Government has found it difficult, if not impossible, to lay in such a stock for the use of the army as might have been desirable.

HEALTH OF THE CAMP AT WIMBLEDON.

Camp Wimbledon, July 23rd, 1877.

SIR,—I have the honour to enclose the usual Medical Report of the camp from the 9th to the 23rd July. Number of cases treated in hospital, 11. The following are the only ones calling for remarks:—

A private of Royal Marines: injury to foot by a target falling upon it; he has returned to his duty. A private of the 37th Middlesex Rifle Volunteers: severe injury to spine and bayonet wound of neck, from a fall when on sentry. A private, 37th Middlesex R. V.: fracture of thigh. Both these cases were transferred to the Cottage Hospital, Wimbledon, where they remain under the care of Mr. Pocklington. Two cases of injury to eye from lead splashes.

A civilian visiting camp fell down and fractured his leg; he was sent away the following morning. The sanitary condition of the camp has been satisfactory, and there are no defects to report. Mr. Steward's meteorological report is forwarded.

(Signed) A. G. ELKINGTON,
Reg. Surg.-Major, Grenadier Guards.

To the Officer Commanding, Camp Wimbledon.

THE following interesting summary of observations taken during the recent Volunteer meeting at Wimbledon will speak for itself.

J. H. STEWARD'S TENT, WIMBLEDON CAMP.

Date.	Barometer reduced to sea level and 32° Fahr.	Maximum temperature in the sun.	Maximum temperature in the shade.	Minimum temperature.	Wet bulb thermometer.	Dry bulb thermometer.	Rainfall.	Direction of wind.	Velocity of wind. (Miles per hour.)	Remarks with reference to recording barometer.
	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Degrees.	Inches.			
July 7th	30·10	...	65	43	...	65	None	N.N.W.	12	Rising steadily
„ 8th	30·20	...	66	43	60	64	·1	W.N.W.	12	„ „
„ 9th	30·33	...	67	42	61	64	·19	W.N.W.	12	Very steadily rising
„ 10th	30·21	132	74	53	64	73	None	W.N.W.	9	Very steady
„ 11th	30·	116	76	52	63	68	„	N.W.	9	Slightly falling
„ 12th	29·97	136	76	48	64	74	„	S.W.	4	Very steady
„ 13th	29·81	130	76	49	62	71	„	N.W.	7	Very slowly falling
„ 14th	29·55	129	76	50	66	67	·19	S.W.	19	From 9 o'clock the barometer has been gradually falling
„ 15th	29·31	126	73	53	61	65	·40	S.W.	18	Slightly risen since 3 o'clock this morning
„ 16th	29·39	128	76	54	60	62	·26	S.S.W.	5	Has risen slightly
„ 17th	29·61	94	76	55	57	60	·01	W.N.W.	10	Has been steadily rising for the past 24 hours
„ 18th	29·93	125	72	48	56	63	None	N.W.	10	Has a slight tendency to fall
„ 19th	29·88	121	69	55	65	70	„	S.W.	8	Remained steady up to 12 noon; since then has fallen slightly
„ 20th	30·02	133	70	54	58	66	·2	N.W.	15	Has remained steady from 1 o'clock this morning
„ 21st	30·02	133	69	55	61	73	None	S.W.	19	Quite stationary for the past 24 hours

Correspondence.

"Audi alteram partem."

THE FALLACIES OF STATISTICS.

To the Editor of THE LANCET.

SIR,—In an able article in your journal of last week, entitled "Hospital Mortality," you quoted some statistics from an essay by Dr. Steele on the subject, tending to show that there are very unaccountable differences in the mortality of our large hospitals, which appear to be in opposition to the ratios which would be expected. As you justly observe, any deductions from such general statistics as those given by Dr. Steele are of no great value in deciding on the healthfulness of general hospitals. I have had special opportunities for watching the causes of mortality in St. Thomas's Hospital, to which you particularly refer, and the subject having a special interest for me, I propose to show that even the modified inference as to the healthfulness or the reverse of the hospital which might be drawn from Dr. Steele's statistics, is not really warranted by the facts.

I may first point out an error into which Dr. Steele has fallen with reference to the number of beds, which though perhaps excusable, is of so obvious a nature that it is strange that the startling results which it involves did not lead him to make inquiries. The total number of beds is stated as 573, this number including the special block for contagious fevers, small-pox, and the like, which should, I think, be considered separately when comparison is made with other hospitals, where no such special accommodation, used almost solely in epidemics, is provided. But the total number of beds in the wards in use (certain wards, as is well known, being entirely unused in consequence of the annual rating of the hospital at £3000 by Lambeth parish), is only about 400. This makes the average number of occupations of each bed in the year, or "activity," about 8·5, nearly the same as Guy's and St. Bartholomew's, as everyone would expect, instead of the marvellously low rate of 5·5.

Next, as to the mortality, I would first observe that this should, to be of the slightest value, be calculated on medical and surgical cases separately, unless the proportion of medical to surgical beds bear a constant ratio. Taking up, for example, the reports of St. Thomas's for one year, 1873, I find the following facts:—

	Beds.	Total cases.	Deaths.	Mortality per cent.
Surgical wards.....	220	1645	151	9·7
Medical wards	150	1240	174	14

Now these results would seem to show a very serious mortality in the medical wards, but are capable of a very simple explanation. It is easy to show that there are certain factors which, whilst they greatly alter the statistics, are entirely independent of the management of the hospital or the patients. The general mortality, in fact, varies with the severity of the cases admitted. Where, in consequence of the limited number of beds, and the large number of applicants, it is necessary to select for admission only the most severe and urgent cases, where, too, the necessities of clinical teaching demand that the cases should be of some importance, it will be found that the general mortality per cent. increases. A large hospital is the last refuge of the hopeless; they come there only when no power on earth can do more than alleviate suffering. Hence, at University, King's, and St. Thomas's, the mortality appears exceptionally great. It would be easy to demonstrate a fact of which experience has convinced me—viz., that a very large proportion of deaths occur within a few days or a few hours of admission, and, what is more, that the condition of the organs after death makes it a marvel that they have survived so long. Where, as at Bartholomew's, the number of beds is large in proportion to the number of severe cases, many slighter cases are admitted, which could not, on account of pressure of urgent cases, be taken in at University or St. Thomas's. My experience extends only to these two hospitals, but I presume that the same cause accounts for the high mortality of King's.

I forbear to trespass further on your space, and I think I have said enough to show that, as you justly observe, mortality statistics, to be of value, must be grounded on the comparison of a series of cases of similar nature. Masses of crude figures, such as those of Mr. Lawson Tait and Dr. Steele, serve only to obscure the real facts.

I am, Sir, yours, &c.,

July 31st, 1877. W. S. GREENFIELD.

To the Editor of THE LANCET.

SIR,—A leading article in THE LANCET is always too important to be passed over, and I am therefore obliged to notice one or two points in your leader of Saturday last on the subject of hospital mortality.

You contrast Dr. Steele's results with mine in a few details, but you say nothing of that general conclusion expressed by each in words almost identical, and which is, quoting Dr. Steele's words, to the effect that London hospital mortality "is gradually assuming proportions which deserve the most serious consideration." That a full and complete consideration cannot be given at once to this matter is the complaint which I reiterate in my book, and that this cannot be given is due to the absence of trustworthy and complete statistics.

In your article you use the term "activity," and define it to mean "the number of times each bed is occupied during the year." But your term, though a convenient one, means nothing unless accompanied by some statement which will show how the changes of the bed occupants are brought about, whether by death or by rapid recovery. This is done not completely, but with better purpose than has been previously indicated, in my table of the bed-rate mortality. This "activity" can be of no value whatever without this qualification.

Speaking of my own work, you must forgive me if I say that you exaggerate the importance I place upon what I call the margin of bed accommodation. My actual words are as follows (p. 43):—"There rises here a very important question as to whether the extent of this margin may not very materially affect the death-rate of the hospitals." This is further qualified at p. 107 by a statement about the very case you quote, University College Hospital, which statement I take from Holmes and Bristowe's report, to the effect that the hospital population is found to be very unequally distributed through two parts of the year, these being governed by the existence of the session of the medical school. This is quite enough to destroy entirely, in this instance, the slight value I place upon the relative margin of bed accommodation.

"Again, Mr. Tait asserts that St. Bartholomew's is as active as University College, whereas in reality the activity is as 8·5 to 11·4." I do not know whence you derive your proportions of activity, but certainly not from my figures. Using your own method of calculating, it will be seen that I give the proportions as 11·11 to 12·75—that is to say, there is an apparent advantage for University College over Bartholomew's of 1·64 patients per bed. But this advantage is dispelled at once when it is disclosed that at University the mortality is 11·91, and that of St. Bartholomew's 5·12, or less than half.

Regarding the last matter to which you refer, you make me "assert that length of residence and percentage of mortality bear a direct proportion to each other, an assertion which is strangely contradicted by Dr. Steele's tables." I have perused Dr. Steele's tables very carefully, without being able to discover the contradiction, and for the reason that I give the qualification which you have overlooked, that the mean residence may be brought down by two wholly opposite factors—excessive mortality, and low mortality combined with rapid recovery.

I am, &c.,

Birmingham, July, 1877. LAWSON TAIT.

To the Editor of THE LANCET.

SIR,—From the figures you quote in your article of to-day on hospital mortality, it is apparently difficult to draw any conclusion as to the causes which influence the death-rate in the different London hospitals. The percentage difference is not great, but that it is large enough to call for inquiry is proved by the fact that if at St. Bartholomew's the mortality of King's prevailed, every year 190 persons who now recover would die. What, then, are the causes of this variation? Your figures show that the size of the building, its age, and its "activity" have little or no influence. The difference cannot, I think, be accounted for by the varying severity of the cases admitted; no one can think that at St. Thomas's, for example, the general run of cases is more severe than at Guy's, and yet the mortality is nearly three per cent. greater.

In the table which you print, it is found that King's College, St. Thomas's, and University College Hospitals show the highest mortality. In these institutions the nursing is conducted on what are considered new and improved principles; at St. Thomas's, on the Nightingale plan, and at the University and King's by sisterhoods. In all these hospitals the nursing is more or less independent of the general management, and this dual government cannot possibly increase efficiency. It is interesting to find that at King's, where the system has been carried to an extreme, and where the nursing sisterhood lately succeeded in forcing a majority of the general committee of management to resign, the highest mortality prevails. Anyone who has had an opportunity of watching nursing as conducted by an independent sisterhood, and by nurses who are strictly subordinate to the general managers of the hospital, will not be surprised to find that what may be termed "fancy nursing" leads to results that must be considered eminently unsatisfactory.

I am, Sir, your obedient servant,

Park-square, Leeds, July 28, 1877. A. F. MCGILL, F.R.C.S.

A POCKET URINARY TEST-CASE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 20th, p. 376, Dr. Alexander's urinary test-case, as made by Mr. Hawksley, of Oxford-street, is described. Dr. Alexander deserves the thanks of the profession for his persevering efforts to devise a portable test-apparatus. The chief difficulty has always been to prevent the escape of the corroding fumes of nitric acid. In Dr. Alexander's case this is done by enclosing the

acid in hermetically sealed capillary glass tubes, and this is the only part of the apparatus in which, as I think, there is any imperfection. If the tubes are very small and thin they are liable to break when shaken together in the case, and so there is an escape of their caustic contents. If they are large and thick they are broken with difficulty, and often at the risk of wounding the operator's fingers. But the chief objection is that a tube may not contain enough acid to form a trustworthy test. We all know that the addition of nitric acid to albuminous urine in quantity insufficient to coagulate the albumen results in the formation of a compound which is not coagulable by heat, and I found by experiment upon several specimens of albuminous urine that while the albumen was not coagulated by the acid contents of a single tube added to the cold urine, this addition of acid entirely prevented coagulation by heat. It is obvious then that the use of these acid-holding tubes may be very misleading, and it is essential that in using nitric acid as a test for albumen we have the means of assuring the addition of an excess of acid. Mr. Hawksley therefore, at my suggestion, has made a modification of Dr. Alexander's neat and portable case, in which I have substituted for the capillary tubes a small nitric acid bottle accurately stoppered and capped; and this bottle is enclosed in a cylindrical ebonite box having a closely fitting screw lid, by which the escape af the acid fumes is effectually prevented. Having had this case in use for several weeks I can recommend it as being very useful and convenient.

I am, Sir, your obedient servant,

Savile-row, July 28th, 1877. GEORGE JOHNSON.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

To the Editor of THE LANCET.

SIR,—Allow me to correct a typographical error in my previous letter, and to supply some omissions. It should have been four to five hundred (not thousand) admitted annually. In reckoning the mortality occurring under the house-surgeon I dated from the reopening of the hospital to its closure in each year—i.e., from the middle of September to the end of July,—not from March to March (the first appointment was in March), as a most severe epidemic was raging in the hospital at the time of his introduction, causing fifteen deaths, eight previous to the appointment, and seven shortly afterwards. The fever was not stamped out until the end of June, not, however, in the way as stated by Mr. Lee in THE LANCET last February, but by the more or less complete closure of the hospital for a fortnight, and the granting of leave to the matron.

In my last letter I proposed to give a detailed account of our present system of working, to show the means we are adopting to reduce the fearful mortality of over twenty years' duration.

First, as regards ventilation. Each ward is made, as far as possible, a small pavilion hospital, receiving its air direct by permanent ventilators from the outside. Besides which the windows are opened for about ten minutes at a time, three times during the night (at 8, 12, and 4 o'clock), and six times during the day, or more frequently if there are any offensive smells. Only two patients are allowed to be in the ten smaller wards, and four in the two larger ones. A pupil nurse sleeps in each ward for the first twelve days. A patient's stay in the hospital is about sixteen days. No ward is allowed to be washed out whilst a patient is in it, but as soon as it is vacated all the beds and bedding are removed, and it is thoroughly washed—walls and floor. The ward is then, as far as possible, hermetically closed, and thoroughly fumigated with chlorine. After that the door is locked, and the window is kept open day and night, until it is again required—i.e., in about five or six days. Unfortunately the accommodation is so limited that this cannot always be strictly enforced. The pupil nurses remain about a month. They have two sets of cases told off to attend, two or three days intervening between the first and second set. During this period the pupil nurses are directed to keep out in the open air as much as possible. Although pupil nurses are allowed to be present at the confinement of their own especial cases, they do not take any part in the delivery. All the pupil monthly nurses are under the matron, who is assisted by a paid experienced nurse on each floor. The beds and bedding removed from the wards, as also all the linen used both by the mothers and infants, are subjected to a temperature of about 250° (Ransom's method, which is simple in operation and easily worked) before being again used.

There are two wards set apart as labour wards, each patient, on her admission, being conducted into one or other, and dressed in suitable garments provided by the hospital. She is delivered by one of the midwives belonging to the out-patient department, who is immediately summoned to her. This midwife is not permitted to perform any other duties than the mere delivery of the patient, assisted by a pupil midwife, who also resides outside the building. We have already had a case of scarlet fever and small-pox accidentally admitted, but in neither case was there any spreading of the disease. This system is, I believe, unique, and seems so far to work well. One amongst its many advantages is that it admits of the prompt removal of a midwife should she accidentally become associated with any infectious case, without, in any way, interfering with the routine work of delivering the patients. There is a large supply of out-patient midwives, living close to the hospital, one of whom can be summoned at any moment. The matron, who has the entire charge of the nursing, is not allowed to enter the labour wards, or take any part in the delivering of patients. The house-surgeon is not permitted to deliver the ordinary natural cases. He only takes charge of difficult ones until the physician arrives. His duties are to superintend all medical and sanitary matters under the physicians, taking especial care that no pupil nurse, who has been near, or in any way connected with, a suspicious case, should be allowed to attend another patient until a sufficient time had elapsed for her purification.

What has been the result of this present system I will briefly relate. Before the hospital was reopened in February last, after that fearful outbreak of puerperal fever, it was thoroughly painted and fumigated. The same beds and bedding, as well as linen, were, however, again used, after having been carefully cleansed and baked. I call particular attention to the beds, bedding, or linen, as it may help to explain the somewhat unsatisfactory condition of the patients first admitted. At the same time, the question presents itself: Is this decided progressive improvement in any way explained by Professor Tyndall's theory of the necessity of repeated bakings in order completely to destroy all germs of infection? The more frequently they are used, the more repeatedly are they stoved.

	Number of patients admitted.	Number of cases whose temperature was over 100°.	Deaths.
In Feb.	12	8[1]	0
,, March	44	33[2]	1[6]
,, April	43	22[3]	2[7]
,, May	49	19[4]	0
,, June	55	18[5]	1[8]

The condition of the infants has wonderfully improved. All those who have had any experience of the babies at this hospital must rejoice at this improvement. There has been little or no thrush, and only a few cases of ophthalmia among the infants. During the present month this improvement has been maintained. It is very rare to find a temperature above 100°, although the majority of the women admitted have been single primiparous patients, many very weakly and several with bad previous histories. During a period of twelve years the heaviest mortality has always been in April, May, and June. If the case of puerperal convulsions is excluded, there has been no death of a patient admitted in May, June, or up to date in July, which has only twice occurred over a period of twelve years.

W. C. GRIGG, M.D.

Curzon-street, Mayfair, July 26th, 1877.

[1] Several of these had a very high temperature, continuing for several days.
[2] Ditto, ditto.
[3] The percentage of very high temperatures diminished considerably.
[4] Only four had temperatures above 102° lasting more than one day.
[5] Only two had temperatures over 102° lasting more than one day.
[6] Primipara, single; flooded; pelvic abscess; post-mortem examination.
[7] Primipara, single; flooded; puerperal peritonitis; primipara, single; scarlet fever.
[8] Primipara, single; puerperal convulsions, twelve hours in the hospital. P.M.: Showed extensive kidney, heart, and liver mischief.

OPERATION BY MEANS OF THE CHISEL IN BONY ANCHYLOSIS.

To the Editor of THE LANCET.

SIR,—Many cases of anchylosis of joints in malposition come under the notice of the "general practitioner;" the following case may, therefore, be useful as showing the comparative ease with which even severe cases may be remedied, as well as the tolerance of joints that have been subjected to chronic inflammation when opened by operation.

Elizabeth S——, aged 22, rather pale, but well nourished, had, six years ago, rheumatic arthritis, which resulted in bony anchylosis of the knee-joint, the leg being flexed at a right angle to the thigh, and quite useless. About four weeks ago, previous to operation, I found the joint greatly enlarged, strong masses of bone firmly uniting the patella to the femur.

I saw this case operated on three years ago, when quite as much force as was justifiable was used, but the attempt to break down the anchylosis subcutaneously was unsuccessful. I therefore decided to use the chisel, and cut through the bony mass, the great strength and thickness of which it seemed hopeless to drill through. I accordingly operated as follows:—Chloroform having been administered, I tried the joint to see if it could be made to yield, but, finding it would not, I made a large semilunar skin flap, with the convexity backwards, on the outer side of the joint (the incision being about six inches in length), and having raised this, I felt about for a line of demarcation between the patella and femur, where I made a straight incision down to the bone, and, inserting the chisel, cut the patella completely free from the mass in which it was imbedded (taking care not to cut the tendon inserted into it), by driving the chisel first horizontally, then vertically, through the connecting mass of bone, considerable force being required to do this; then I forcibly straightened the leg, breaking through some pretty strong fibrous bands uniting the tibia and fibula to the other bones of the joint. I now placed the leg on a straight back splint, and secured the flap with six sutures. The wound was dressed with lint dipped in compound tincture of benzoin.

Union by the first intention took place by the seventh day, except opposite one of the sutures, and this was firmly united without suppuration on the fourteenth day.

The constitutional disturbance was very slight, the temperature rising to 100° on the fourth day, and falling to the normal on the seventh. On the fourteenth day I was able to take away the splint, and found I could move the joint, and continued to move it a little every day. On the nineteenth day the patient was able to stand firmly on the leg and take a step or two. She is to-day (the twenty-third day after the operation) able to walk a little, and is no longer confined to her room. The joint is, of course, not freely movable yet, but can be bent and straightened slowly.

The bleeding during the operation was very slight; only one superficial artery required to be twisted. The time occupied was only a few minutes. I left the patient's house twenty-five minutes after entering it, no assistance being required except a friend in practice near me to give chloroform. These points are mentioned by me as advantages for the general practitioner under whose care these cases often come. Another advantage is having a valvular flap, the line of which does not correspond to the incision into the joint, by which suppuration may be in a great measure prevented. Also the dressing with compound tincture of benzoin has proved with me in this and other occasions most useful for the same purpose. The chisel will be found a most valuable instrument for such cases. No bone need be cut away, and there is no débris.

I have found in this and other instances that there is less pain and inflammation if the limb be put on a straight splint at once.

I am inclined to think anchylosed joints give a fair prospect of success after many years in that state. I operated in the beginning of this year on a case of firm anchylosis of the knee-joint, where the foot had not been able to be put to the ground for sixteen years, and yet the patient has several times walked to my surgery, having discarded her crutches on which she had gone all that time.

Yours faithfully,

ARTHUR RICHARDSON, M.R.C.S.

Rusholme, July, 1877.

Obituary.

ROBERT CORBET KNAGGS, M.R.C.S. ENG.

MR. KNAGGS was born at Carlow in 1809, and was educated by the Rev. Dr. Jamieson, of the same town, whence he proceeded to Dublin to prosecute his medical studies, first as a pupil of Dr. Halloran, of St. Stephen's Green (then High Sheriff of Dublin), afterwards in the Meath Hospital. In 1834 he became a member of the London College of Surgeons, and in the following year a licentiate of the Apothecaries' Hall of Ireland. After practising in the Irish metropolis for a short time, he obtained the appointment of medical officer to the Fever and Cholera Hospitals in Thurles, where for many years he carried on a large practice. In 1850 Mr. Knaggs went to Sydney, Australia, and from thence, in 1855, to Newcastle, N.S.W., where he remained, actively engaged in professional and public labours until within a few months of his decease, which took place on May 31st.

Mr. Knaggs was esteemed not only as a skilful medical practitioner, but as a man of wide sympathies, and of versatile powers. He was one who would, perhaps, have succeeded equally well in any of the learned professions, or even in commerce. For seven years he held the post of coroner for the district of Newcastle with credit to himself and to the satisfaction of his fellow-citizens. He died suddenly of heart disease, to the great regret of all who had the advantage of knowing his worth.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentleman was admitted a Fellow of the College on July 26th:—

Jelly, William, Madrid.

On the same day the following gentlemen were admitted Members of the College:—

Houghton, Walter Benoni, M.D. Lond., Tottenham-court-road.
Longstaff, George Blundell, M.B. Oxford, Wandsworth.
O'Neill, William, M.D. Aberd., Lincoln.
Phillips, C. Douglas Ferguson, M.D. Aberd., Lancaster-gate.
Savage, Thomas, M.D. St. Andrews, Birmingham.
Sullivan, John, Keppel-street.
Thomas, William Robert, M.D. Queen's Univ. Irel., Sheffield.
West, Samuel Hatch, M.B. Oxford, Colville-terrace West.
Wybrants, Jonathan, M.D. Aberd., Shepton Mallet.

Also, at the same meeting, the undermentioned gentlemen became Licentiates of the College:—

Aplin, Alfred, Harrington-street.
Arnott, Sandford, New Ormond-street.
Bennett, Arthur, London Hospital.
Beresford, William Huzh, Gloster-crescent.
Biale, John Seton, St. George's Hospital.
Brett, John, Ladbroke-grove-road.
Brock, Alexander Cameron, Dorking.
Collet, Golding Bird, Marylebone-road.
Evans, William Morgan, Guy's Hospital.
Frankish, William John, University College Hospital.
Friend, Herbert Edward, St. George's Hospital.
Galloway, Arthur Wilton, Fitzroy-road.
Gaisford, Martin, King's College Hospital.
Gomes, Dominic Anthony, Tavistock-street.
Ground, Edward, King's College Hospital.
Hemsted, Arthur, Wellingborough.
Heinemann, William, Hilldrop-crescent.
Langdon, John Sydney, University College Hospital.
Lacey, Charles William, Guy's Hospital.
Mackay, James Jerome, King's College Hospital.
Mackern, John, Park-place, Blackheath.
Pickford, John Kemble, Maiden Newton.
Reporter, Maneckjee Eduljee, Gower-place.
Stewart, Howard Douglas, King's College Hospital.
Vasey, James Adams, Cavendish-place.
Wiglesworth, Joseph, Liverpool.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were duly admitted Members of the College at meetings of the Court of Examiners held during the last and present weeks:—

Arthur, Walter, L.S.A., Oakley-street.
Atkey, William T., Chichester.
Bathe, Anthony I., Purton, Wilts.
Battle, William Henry, Lincoln.
Bennett, Arthur, Stawell, Victoria.
Berdoe, Edward, L.R.C.P., Victoria-park-road.
Bigg, George K. S., L.S.A., Wimpole-street.
Blackman, Josiah G., L.S.A., Southampton.
Budler, Charles F., Cape of Good Hope.
Clark, John G., L.S.A., West Hartlepool.
Coffin, Thomas W., Earl's-court-road.
Collier, Herbert, L.R.C.P. Edin., Turnham-green.
Coumbe, John B., L.R.C.P., Plymouth.
Cripps, Charles C., Bristol.
Dalton, Charles G., L.S.A., Lincoln.
Dale, Henry R., St. George's-square.
Davies, Louis W., Carmarthen.
De Lautour, Bertrand E., Hammersmith.
Duncan, John T., Tunbridge Wells.
Dunstan, William, L.S.A., Brixton.
Edgelow, Samuel H., Savile-row.
Fraser, Graeme B., Weston-super-Mare.
Fulford, John, Melbourne.
Gimlette, George H. D., Southsea, Hants.
Gipps, Alexander G. P., Lonsdale-square.
Golland, Alfred, Oxford.
Hadden, Walter B., Liverpool.
Hammond, Thomas, Whitehaven.
Harding, Arthur, Warminster.
Harle, William I. V., L.S.A., Hackney.
Hawkins, Cæsar F., Bristol.
Heath, William L., Totnes, Devon.
Hinton, James T., Croydon, Surrey.
Hodgson, George G., Liverpool.
Holland, Philip A., Oxford.
Hyde, Samuel, Buxton, Derbyshire.
Inman, Robert E., L.S.A., Hackney-road.
Instone, Samuel V., L.S.A., Addison-road.
Jaynes, Victor A., Gloucester.
Keer, L. Cordy, L.S.A., Wickham Market.
Lowdell, Charles G. W., Wadhurst, Sussex.
Maberly, William H., Leamington.
Makers, John, L.R.C.P. Lond., Blackheath.
Mayburg, Lysander, Frimley, Surrey.
Miller, Richard S., Lowestoft.
Milles, Walter I., Staplehurst, Kent.
Neale, John E., St. John's-wood.
Neylan, John, Ennis, Co. Clare.
Nickoll, John S., Milton, near Gravesend.
Norman, Reginald, Manton, Rutlandshire.
Norton, Ritchie R., Carmarthen.
Pain, Alfred, Bridgewater.
Pemberton, Robert, Madras.
Pinder, John W., Cleethorpe, Lincoln.
Potts, Lawrence, L.S.A., Beckenham.
Prideaux, Thomas E. P., L.R.C.P. Lond., Scarborough.
Proctor, F. Fitzgerald, L.R.C.P. Edin., Trinidad, West Indies.
Quicke, William J., L.S.A., Exeter.
Ross, Richard A., Brighton.
Sheldon, Thomas S., Congleton, Cheshire.
Sheppard, Charles E., Addison-gardens.
Shipton, Arthur, Buxton.
Smith, Hugh, L.S.A., Wimpole-street.
Stock, Gregory, Bristol.
Sutton, Thomas S., L.S.A., Thame, Oxon.
Taylor, Harold G., Queen's-road.
Tritton, William P., Kilburn-park.
Vachell, Edward S., Bath.
Vachell, Herbert R., L.S.A., Llandaff.
Verdon, Michael John, Craven-street.
Von Beverhoudt, William T. H., Plymouth.
Wagstaffe, John P., L.S.A., Dalston.
Wallis, Percy E., Hartfield, Sussex.
Weller, John, L.S.A., Amersham.
Weekes, F. Henry, L.S.A., Auckland, New Zealand.
Wilmot, Thomas, L.R.C.P. Edin., Fenton, Lincolnshire.
Wishart, John, Ontario, Canada.
Woods, Arthur A., Belfast.
Yoshida, Kenzo Hidenari, Japan.

UNIVERSITY OF LONDON.—The following is a list of the candidates who have passed the recent Preliminary Scientific (M.B.) Examination:—

FIRST DIVISION.—Edwin Leonard Adeney, Harry Poole Berry, Oswald James Currie, Charles Gross, Charles Skinner Harper, William Lane, Michael O'Kane, John Smith, and Joseph Jas. Udale, Guy's Hospital; Charles Alfred Ballance and Arthur John Jefferson, St. Thomas's Hospital; Alex. Barron, Joseph Clegg, Wm. Radford Dakin, Thomas Harris, Wm. Heaton Horrocks, Wm. Henry Horrocks, Hyde Marriott, John Thomas Rogerson, and Malcolm Webb, Owens College; John Williams Batterham and Desmond Ernest John Mortimer, Westminster Hospital; Isaac Blore, The Leys, Cambridge; Chas. Edw. Cassal, Lewis Humfrey Edmunds, Philip Rhys Griffiths, F. Matthew Holman, Arthur Hamilton Nicholson Lewers, Sidney Harris Cox Martin, Herbert Percy Miller, Paul Frank Moline, Lionel Philip Purton, Richard Pritchard Roberts, Edgar March Crookshank, and George Henry Whitelegge, University College; Henry Francis Corbould and Henry Hoole, Charing-cross Hospital; Donald Douglas Day, George Parsons Naylor Dixon, John Hughes-Jones, Robert Jones, Bernard Rice, Edward Rice, Francis Harper Treherne, and John Whiting, St. Bartholomew's Hospital; Arthur Grayling, St. George's Hospital and Epsom College; Henry Louis Preston Hardy, London Hospital and private study; George Wm. Hill, King's College and private study; Jonathan Hutchinson and David John Rygate, London Hospital; Leonard Frank l'Anson, Fredk. Herbert Lane, Harold Bailey Shaw, and Lockhart Edward Walker Stephens, Epsom College; William Thomas Maddison, King's College; Richard Prothero, Liverpool Medical School and St. Bartholomew's Hospital; William Sellers, University of Edinburgh; Frederick Wallis, Stoddart, University College, Bristol; St. Clair Thomson, private tuition and study.

SECOND DIVISION.—Alfred James Granville Barker, Pramatha Nath Bose, John Roberson Day, Edmund Jesse Dobell, Charles Downing, Sydney John Hickson, William Havelock Hill, Eugène Arthur Laurent, James Samuel McDonagh, Alfred Derwent Maitland, Henry Wilkinson Newsholme, and Lauriston Elgie Shaw, University College; William Job Collins, John Alfred Gray, Frederic Maude, Arthur Guy Salmon, and Charles Sanders, St. Bartholomew's Hospital; Joseph Dobson and James Atkinson Hosker, private study; John Fletcher, Isaac Scarth, and Arthur Thomas Wills, Owens College; Francis Hitchman, University of Edinburgh; Joseph Herbert Lister and John Richmond, Guy's Hospital; Richard Basil Morley, Leeds School of Medicine; Thomas Pemberton Pemberton, Queen's College, Birmingham; Samuel Babbeth, King's College; John Alexander Shaw, University College and private study.

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine and received certificates to practise on the 26th inst.:—

Brown, Alexander Stewart, Leamington.
Collet, Golding Bird, Western Ophthalmic Hospital.
Devis, Charles James, King's Heath, Birmingham.
Harran, James, Nelson-street, Leicester.
Instone, Samuel Vaughan, Addison-road, Kensington.
Stewart, Howard Douglas, St. James's-gardens-square-crescent.

The following gentlemen also passed the Primary Professional Examination:—

Charles Firmin Cuthbert and James B. Rusher, St. Bartholomew's Hospital; Harvey Robins, St. Mary's Hospital; Leonard W. Sutton and William F. Haslam, St. Thomas's Hospital.

[In the list of gentlemen who passed the Primary Professional Examination at Apothecaries' Hall on the 19th ult., the name "Arthur E. R. Bower" should have been Arthur E. R. Bowen.]

THE library of the Medical Society of London will be closed from the 6th August to the 5th September.

DR. GEORGE HARE PHILIPSON, M.A., F.R.C.P., of Newcastle-upon-Tyne, has been placed upon the Commission of the Peace, for the town and County of Newcastle-upon-Tyne.

AT a special meeting of the governors of the Brighton and Hove Provident Dispensary, held at the Town-hall, Brighton, a resolution was passed to extend its operations so as to include the whole of the parish of Preston situated within the borough. Dr. Wooldridge was appointed the medical officer for the new district.

Medical Appointments.

BENNETT, A., M.B., C.M., L.R.C.P.I., M.R.C.S. & L.A.C., has been appointed House Surgeon to the London Hospital, vice Price, resigned.

BRABAZON, A. B., M.D., has been reappointed Medical Officer of Health for the Bath Urban Sanitary District for one year.

CANTLIE, Dr. J., has been appointed Demonstrator of Anatomy at the Charing-cross Hospital Medical School, vice Goodsir, resigned.

CARLY, R. W., M.R.C.S.E., L.S.A.L., has been appointed Assistant Medical Officer to the Haydock Lodge Lunatic Asylum, near Newton-le-Willows.

CURWEN, C., M.R.C.S.E., has been appointed House-Surgeon to the Male Lock Hospital, vice Cooper, resigned.

DEAN, T. N., M.R.C.S.L., L.S.A., has been appointed Consulting Surgeon to the Ardwick and Ancoats Hospital and Dispensary, Manchester, on resigning as Honorary Surgeon.

DOUGLAS, C., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer for the No. 1 District of the Leicester Union, vice Derington, resigned.

FITZGERALD, D. L., M.B., C.M., has been appointed Medical Officer, Public Vaccinator, &c., for the Templemichael Dispensary District of the Youghal Union, vice Garde, resigned.

FRIEND, F. W., M.R.C.S.E., has been appointed Medical Officer for the Hoxne District of the Hoxne Union, Suffolk.

HANNAH, N., L.R.C.P.E., L.F.P.S.G., has been appointed Medical Officer and Public Vaccinator for the Ashton-in-Makerfield District, Wigan Union, vice Mather, resigned.

JOULE, Mr. J. S., has been appointed Physician's Assistant and Pathologist to the Wolverhampton and Staffordshire General Hospital, vice Pinnell, appointed House Physician.

LAVER, H., M.R.C.S.E., L.S.A.L., has been appointed a Surgeon to the Essex and Colchester Hospital, vice Partridge.

LILLEY, G. H., M.D., M.R.C.P.L., has been appointed Assistant Medical Officer to the Warwickshire Lunatic Asylum, Hatton, vice Jones, resigned.

MCDERMOTT, W. L., M.D., L.R.C.S.Ed., has been appointed Medical Officer, Public Vaccinator, &c., for the Ballyfeard Dispensary District of the Kinsale Union, co. Cork.

NUNN, T. W., F.R.C.S.E., has been appointed Consulting Surgeon to the City Provident Dispensary and Surgical Appliance Association.

PALMER, T. D., L.R.C.P.Ed., L.F.P.S.G., has been appointed Medical Attendant to the Royal Irish Constabulary, Sligo, and Surgeon to the Duke of Connaught's Own Artillery Militia, vice Devany, deceased.

PARTRIDGE, J. H., M.R.C.S.E., L.S.A.L., has been appointed a Consulting Surgeon to the Essex and Colchester Hospital, upon retiring in accordance with the rules.

RIORDAN, T. F., M.D., has been appointed Resident Medical Officer and Apothecary to the Cork Union Workhouse, vice Hayes, resigned.

ROLSTON, P. W., M.R.C.S.E. & L.M., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 4 District of the St. German's Union, and Medical Officer of Health for the No. 4 Sub-district of the St. German's Rural Sanitary District, vice Littleton, deceased.

WHITE, W., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed Medical Officer to the Workhouse, Celbridge Union, co. Kildare, vice O'Kelly, deceased.

Births, Marriages, and Deaths.

BIRTHS.

BUTTERCASE.—On the 27th ult., at Dudley, Northumberland, the wife of Robert Buttercase, M.B., C.M., of a daughter.

FINNY.—On the 30th ult., at Lower Baggot-street, Dublin, the wife of John Magee Finny, M.D., of a son.

FRANKLIN.—On the 28th ult., at Leicester, the wife of George C. Franklin, F.R.C.S., of a son.

GAFF.—On the 29th ult., at Ardrossan, the wife of James Dobbie Gaff, M.D., of a son.

MOORE.—On the 30th ult., at Portpatrick, the wife of J. T. Moore, M.D., of Glasgow, of a daughter.

RAYNER.—On the 23rd ult., at Tiviot Dale, Stockport, the wife of Edwin Rayner, M.D., of a daughter.

SEAMAN.—On the 22nd ult., at Ramsgate, the wife of W. C. Seaman, M.D., Deputy Inspector-General of Hospitals, of a daughter.

TEALE.—On the 26th ult., at Belvoir-terrace, Scarborough, the wife of John W. Teale, of a daughter.

WILKINSON.—On the 24th ult., at Silver-street, Lincoln, the wife of Thomas M. Wilkinson, L.R.C.P.Ed., of a son.

MARRIAGES.

BARNES—MARTEN.—On the 31st ult., at St. George's Church, Canterbury, by the Rev. Waterman Gardner Waterman, M.A., Curate of Harrietsham, assisted by the Rev. N. H. McGachen, Rector of the Parish, Arthur Richard Barnes, M.B., of West Bromwich, Staffordshire, fifth son of the late Henry Barnes, Esq., of Faversham, to Mary Elizabeth, youngest daughter of Peter Marten, Esq., of Canterbury, and Beach House, Deal, J.P. & L.D.

MCLEOD—AITKEN.—On the 26th ult., at St. John's Episcopal Church, Edinburgh, by the Right Rev. the Bishop of Edinburgh, assisted by the Rev. Henry Macnamara, uncle of the bride, Surgeon-Major Kenneth McLeod, Indian Medical Service, to Jane Christie, eldest daughter of the late John Christie Aitken, Esq., of Christchurch, New Zealand. No cards.

DEATHS.

BRADLEY.—On the 23rd ult., at High Bentham, Yorkshire, John Bradley M.R.C.S.E., aged 33.

CARRUTHERS.—On the 24th ult., at Hartwell-park, Northamptonshire, Thomas Carruthers, L.R.C.P.Ed., late of Elton, Lancashire, aged 27.

DALGAIRNS.—On the 25th ult., at St. Mildred's, Weston-on-Sea, Dr. Charles Anderson Dalgairns, aged 52.

DAVIES.—On the 23rd ult., at Holywell, John Davies, formerly House-Surgeon at the Flintshire Dispensary, aged 35.

DENNE.—On the 15th ult., at Winslow, Bucks, John Denne, M.R.C.S.E., aged 65.

FOOT.—On the 22nd ult., at Lodwell, Wilts, Stephen Foot, Surgeon, in practice prior to August, 1815, aged 80.

FORBES.—On the 24th ult., at Greenbank, Auchterarder, Alexander Forbes, M.D., aged 67.

GIMLETTE.—On the 1st inst., at Southsea, Hart Gimlette, M.D., Fleet-Surgeon R.N., aged 64.

NICHOLSON.—On the 8th ult., at Antigua, the Hon. Thos. Nicholson, M.D., for many years a Member of the Executive Council, aged 77.

REDFERN.—On the 1st ult., at Esquimalt, Vancouvers, Thos. Redfern, M.D., Surgeon H.M.S. *Rocket*, aged 37.

TICEHURST.—On the 20th ult., at Hastings, where he had practised for forty-five years, Frederic Ticehurst, Esq., J.P., M.R.C.S.E., in the 68th year of his age.

WEISS.—On the 16th ult., at the Royal Infirmary, Manchester, Dr. Benjamin Weiss.

WILLIAMS.—On the 24th ult., at St. Martin's, Colchester, Edward Williams, M.D., aged 60.

[N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*]

BOOKS ETC. RECEIVED.

Transactions of the Medical Society of the District of Columbia. July, 1877.
Cassell's History of India. Part XX.
W. A. B. Grohman: Tyrol and the Tyrolese.
Mary Putnam Jacobi, M.D., on the Question of Rest for Women during Menstruation.
The Journal of Anatomy and Physiology. July.
Dublin University Magazine. August.
The American Journal. July.
Cassell's Domestic Dictionary. Part I.
Monthly Microscopical Journal. August.
Monthly Homœopathic Review. August.
Folsom: Disease of the Mind.

Notes, Short Comments, and Answers to Correspondents.

PAPER SPLINTS.

DR. M. R. SPEARE, of Rochester, New York, calls attention in the *American Journal of the Medical Sciences* for July to his fixed splint for fractures of the lower extremity and sprains of the ankle-joint. For the purpose he employs strong Manilla-paper and bookbinders' starch, which consists of flour and water boiled to the consistence of jelly. The paper is prepared by cutting it into strips long enough to encircle the limb at its greatest circumference, and varying from half an inch to an inch and a quarter in width. An assistant with the starch and a brush being at hand, a flannel roller is applied as far as the splint is intended to reach; the roller is then smeared with the starch, the strips of paper are applied—after starching—like a many-tailed bandage, and layer upon layer of starch is applied until the requisite thickness is obtained. When the apparatus is dry, which will take two or three hours by the aid of hot bricks or sand-bags on each side of the splint, it is, Dr. Speare says, very light and comfortable, fitting like a stocking, and is as firm as the same thickness of wood. It is claimed for the paper splint that it is superior to either plaster of Paris or the ordinary starch bandage; also that it can be easily cut open as it gets loose, and, after taking away a strip, may again be applied, and held by adhesive plaster.

Mr. Arthur Richardson will find the letter inserted in our present number.

ARMY MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—I venture to think that the army doctors are far from being wise in their generation. They have had their wrongs and their grievances no doubt. But to what is a continuance of this grumbling likely to lead? Let us suppose that the medical service fails to attract a single candidate, how on earth is that to improve the condition of the existing doctors? Mr. Hardy may double or quadruple the pay he offers to intending candidates, or do any other improbable thing; but the most improbable thing of all would be for him to do anything more for those already in the service so long as this grumbling spirit continues. One of two things—a sufficient number of men to fulfil the present requirements of the service, or the contraction of these requirements to enable him to get them fulfilled by those he does get. I do not think it would be difficult to hazard a surmise as to how the latter might be effected. Spite of much of which I may not approve in the tone of Mr. Hardy's speeches, I believe that he has striven to do his best to content the medical service, and it is possible that if we are dissatisfied with the best offered by a Conservative Government, we may one day have again to taste the worst from a Liberal Government. I conceive the course that is being adopted to be impolitic and suicidal when regarded from a low point of view, and as worse when regarded from a high one. The State has surely a perfect right to adopt any organisation it likes, and however unwisely or harshly unification may have been effected by Lord Cardwell, the thing has been done, and, what is more, now that it is done, it is for the good of the service as a whole. The Government has, in effect, said to us, "Here are our requirements. We make you responsible for the work, which is of too technical character for us to understand." And we say, "Very good; give us such and such implements—men and material,—and leave us alone." To which the Government agrees, and sets about supplying us in good earnest with the requisite tools and the requisite authority to carry on our work in our way. I contend that it is both our duty and our interest to accept that position, and do our best, or leave the service. Life is not "all beer and skittles" to the best of men under the best of circumstances; but it is simply made intolerable by the captious and discontented. The tide is turning, I think. Reasonable men, who want exchanges (properly guarded against abuse) and a few other modifications of existing conditions, are sick of the grumbling and contention, and the capital that is made out of it, by a few designing and discontented men, who, because they cannot better their own case, are doing all they can to injure their neighbours.

Taken as a whole, the new organisation is a really good and wholesome change, and capable of growth and development into something far better. If the Government can get men on their short-service system, it is nothing to us. Meanwhile, if they do not get them, it will fall on us to do their work in addition to our own. Yours obediently,

July, 1877. AN ARMY DOCTOR.

Dr. N.—The advantages of a voyage to the colonies have already been discussed in these columns. We cannot undertake to notice anything in the shape of a commercial prospectus relating to the subject.

M.B.—Mr. Henry Smith and Mr. Allingham have written treatises on the subject.

"A HINT TO VACCINATORS."

To the Editor of THE LANCET.

SIR,—In reply to Dr. Jeaffreson's question, I wish to state that my patient was successfully vaccinated about twenty years prior to last December. He was then unsuccessfully vaccinated from points by a suburban practitioner. In February he was vaccinated from a child's arm by a public vaccinator in town. There was slight irritation, which disappeared within a week, leaving no marks. In April he came to me, and, at the same time that I made the successful blisters, I vaccinated him in the ordinary way in two places, neither of which had any effect. I think this history proves, not that my patient was insusceptible to vaccination, but that he was insusceptible to vaccination done in the usual manner.

I certainly fail to see that your correspondent's cases "show insusceptibility." They simply prove the well-known fact of the uncertainty of ordinary vaccination, which uncertainty I claim to be greatly reduced by the blistering method. Your obedient servant,

Twickenham, July 30th, 1877. ALBERT BENTHALL.

THE COLORADO BEETLE.

T will be necessary to avoid that possible consequence of repeated false alarms, the neglect of proper precautions, with regard to the dreaded invasion of Colorado beetles. The onslaught will be none the less deadly, if it should be made, because it has been preceded by more than one misconception. The beetles seen in Hereford were proved to be specimens of a rare species of lady-bird, at least so says Captain Tennant. It has been suggested that societies of naturalists might do useful work in the agricultural districts by appointing vigilance committees to watch the local entomology. We venture to commend this notion as an exceedingly good one. By a little practical science, societies might demonstrate their usefulness, and create a new claim on public support and interest.

Dr. Parsons.—We doubt the value of these appeals.

TESTS FOR SUGAR IN URINE.

To the Editor of THE LANCET.

SIR,—The ability to determine the presence or absence of sugar in urine is one of the most important points connected with its clinical study, and yet to the majority of practitioners it seems to be the least understood. The confusion which surrounds this subject is rather remarkable, and extremely to be regretted considering its practical bearings. I shall simply say that for the detection of sugar in urine, Trommer's test is, to my mind, the simplest, and sufficiently delicate for medical work.

In a communication from Dr. George Hay, of Alleghany City, Pennsylvania, published in THE LANCET of June 23rd, it is said that the urine may contain other substances besides sugar, which will reduce the salts of copper in an alkaline solution. I have had considerable experience with this test, and must say that this fallacy has never occurred to me. What is important, however, in regard to the application of Trommer's test to the urine, and which, I think, is not universally appreciated, is the following:—Applied in the "usual way," as Dr. Hay says he did—i. e., pouring a quantity of urine into a test-tube, and adding a couple of drops of a solution of copper sulphate, and then rendering alkaline by an excess of potash solution—will not give the characteristic reaction, when boiled, though the urine contain fifty per cent. of sugar.

If our saccharine solution were a watery one, the precipitation of copper suboxide would be prompt. But it has been long known that the urine interferes with this process, and that instead of copious, opaque, yellow deposit of copper suboxide, we will have after boiling with the reagents of Trommer's test—1st, a disappearance of the blue colour; and 2nd, a clear urinous-looking fluid, intermixed with a few flocculi of the earthy phosphates, thrown down by the alkaline reagent.

I say, then, that it has generally been taught that this method was inapplicable to the urine, and to obviate the difficulty we were accustomed to mix the suspected urine with finely powdered animal charcoal in a paste, and filter, to collect the watery filtrate, and then to proceed as usual with Trommer's test, when, if the solution contained sugar, the familiar reaction would ensue. But these manipulations are unnecessary in the light of a modification which I described in the *New York Medical Journal* for June, 1874, p. 632, and which I think can with propriety be here alluded to. It is briefly as follows:—Boiling urine has the property of dissolving copper suboxide. But its capacity in this regard is, of course, limited. So all we have to do is to graduate our ingredients in such a manner as to have either an excess of the copper sulphate or a minimum of urine. The latter is the more convenient; therefore take, to begin with, only half a drachm to a drachm of urine, and add about four drops of a solution of copper sulphate of the strength of one drachm to an ounce, and then pour in the alkali until the whole assumes a clear blue colour. This when boiled will undergo the characteristic change if sugar be present.

Yours respectfully,

New York, July 13th, 1877. GEO. B. FOWLER, M.D.

Mr. Davies.—If the letter was sent by the legal representatives of the deceased in the interest of the bereaved family, and exclusively to the patients of the deceased practitioner, we see no harm in the proceeding. It would, however, have been better, and scarcely more costly, to have had the letter copied or even lithographed. Print is suspicious.

PROPOSED IRISH GRADUATES' ASSOCIATION.

To the Editor of THE LANCET.

SIR,—At the approaching meeting of the British Medical Association it is proposed to hold a meeting of members of the profession practising in England, who hold Irish degrees and diplomas, to consider the formation of an Association analogous to those formed by the Scotch graduates. As there are many medical men who are not members of the Association, and might not be able to attend the proposed meeting, yet who may wish to join such an Association, I will feel much obliged to any Irish graduate who may approve of this proposal to send his name to me on or before Wednesday, August 8th, addressed to the Reception-room, British Medical Association, Manchester. Yours faithfully,

July, 1877. JAMES THOMPSON, M.D.

A Constant Reader.—The fee paid seems wholly insufficient; but an arrangement should be made before receiving the subpœna, if called as a witness by instigation of a solicitor.

THE MEDICAL DIRECTORY.

To the Editor of THE LANCET.

SIR,—As the annual circular will shortly be sent by the editors of the Medical Directory to every medical man, will you allow me to call attention to a serious omission on the part of the editors.

There is in the circular a request that the name of any new resident in the neighbourhood should be given, the request being complied with by some medical men. The editors insert the name in the Directory without sending a circular to the new-comer to ascertain the truth as to his being a resident or merely a visitor in the district.

I trust the editors will take the hint this year, and avoid an incorrect insertion. Yours obediently,

July, 1877. M.R.C.S.

THE INTERNATIONAL MEDICAL CONGRESS AT GENEVA.

WE are asked to state that Dr. Prevost will be happy to send a programme of the proceedings at this Congress to anyone who will make known to him their wish to have one. It may be useful to announce also that hotel accommodation will be secured by the Secrétaire-Général if information of the class of hotel required and of the probable duration of stay in Geneva be sent to him before September 1st.

RADICAL CURE OF SMALL-POX.

To the Editor of THE LANCET.

SIR,—While this disease is so prevalent in some parts of England at the present time, the following, extracted from my Annual Sanitary Report of the District of Tipperah, Bengal, for 1873, may be of use in the treatment of it:—

"Small-pox did not prevail to any great extent or in an epidemic form in any part of the district. The number of deaths, however, which are recorded from this cause (160 in all) is much larger than in any of the preceding three years during which they were recorded. There is no record of them for 1869. The measures taken to prevent the propagation and spread of small-pox were vaccination, the isolation of the sick from those who were well, and the radical cure of the disease by anointing the sick all over with a liniment composed of one part of carbolic acid to ten parts of linseed oil. This liniment was so used twice daily until the remains of eruption peeled off the skin. This proved a most effectual cure for small-pox. It acted like a charm.

"On the 8th December I was informed by one of my vaccinators that there were two cases at the village of Kaliajurree, about a quarter of a mile distant from the back wall of the gaol, and only a very little farther from the civil station. This village, according to the census of 1872, contained 431 inhabitants, and I knew that if once the disease spread itself there, it would soon travel into the station and town of Comillah. I therefore went at once to the spot, taking with me the carbolic-oil liniment. On arriving I found a man, named Saadoollah, who had been first seized, walking about within the barree, near his house, in a convalescent state, but with the scabs of the disease, which had been very thick and close, still adherent, but dropping off. His son, a boy of about twelve years, who had been seized eight days before, was lying in the house, with the eruption fully matured and very thick all over him, and nearly in a confluent form. I did not pay any attention to the father, as he did not seem to require my services. I gave the boy's mother, however, a sufficiency of the liniment, giving her directions how to use it, and gave orders to the vaccinator to see that she did so twice daily. I also instructed both my vaccinators to vaccinate all in the village who were unprotected. I then communicated with the magistrate, who at my suggestion placed a guard of police around the infected barree to prevent inter-communication. On the 12th I was informed that there were two more cases in the village. I went again, and found a boy of five years of age in another barree, who had been attacked two days previously, and the eruption had made its appearance pretty freely on the brow, neck, and wrists. In another barree I found a boy of six years of age, who had been attacked four days previously, and he also was well studded over with the eruption, still in the papular form. With the parents of these I also left some carbolic liniment, with directions for its application, and a vaccinator was also instructed to see the treatment carried out. The success of the treatment was great, even in the first case, where the eruption had matured; for it immediately subdued the fever, and the boy was enabled to sleep well. The disease left but few marks of pitting after the skin peeled off, and there was a rapid recovery. With reference to the second and third cases so treated, the disease was at once arrested in its progress; the papulæ never got into the stage of vesiculæ, but gradually became smaller and dark in colour, and on the fourth day of the application I found them hard and dry, and gradually dropping off from the cuticle. They finally all dropped off, and hardly left a mark. There never was any fever after the first application or two. The virus seemed to have lost its power soon after the remedy was first used, and every symptom of general disturbance vanished. Another case occurred among the prisoners in gaol, which was treated in like manner, with the same results as in the last two cases. On the 27th December a prisoner was brought to me, with the eruption in the papular state well developed on the face, neck, arms, hands, abdomen, and legs—in fact, all over. He was put into a cell along with a vaccinated attendant, and the carbolic-oil treatment at once commenced. In two days the eruption had assumed a dark appearance; the papulæ became smaller in size day by day, and finally gradually dropped off in dry, hard scales of epidermis. The very slight fever the man had at first disappeared entirely after the first day's application, and he ate his food and slept as usual, without a single bad symptom, till he was discharged cured. No other cases appeared either in Kaliajurree or in the gaol in December, or even up to the date of writing this (7th February, 1874)."

The population of the district of Tipperah was by the census of 1872 a total of 1,533,931; the average gaol population was nearly 300 prisoners. The population of the town of Comillah, of which the village of Kaliajurree is a suburb, is 12,948. I have reason to attribute to the carbolic-oil treatment solely the immunity of the town and other thickly spread villages around from the disease. Of course I was much aided by the police keeping cordons around the infected houses. Yours &c.,

Tay-street, Perth, WM. COWAN, L.F.P. & S.G.

Mr. J. P. Walker.—No doubt the principle that drains should be ventilated in a manner providing for the escape of sewer gas is sound; but the poisoned air must be carried so far away as to render admixture with the respired atmosphere impossible.

"POVERTY OF THE PHARMACOPŒIA."

To the Editor of THE LANCET.

SIR,—Your advertising columns give ample proof of the vast number of patented and specially prepared preparations, and every general practitioner is inundated with circulars and lists from the wholesale druggists. I am sure many of them are valuable and certainly "elegant"; but it is a great confession of the poverty of the Pharmacopœia when a M.D., F.R.C.P. Lond., &c. &c., whom I lately met in consultation, ordered for the case (not an extraordinary one by any means), no less than four advertised medicines internally and externally. I have no doubt many general practitioners have the same experience in their consultations with London physicians and leading men. I am, Sir, your obedient servant,

July, 1877. G. P.

PUBLIC HYGIENE IN AMERICA.

DR. EZRA J. HUNT, of New Jersey, U.S.A., Chairman of the Section on State Medicine in the American Medical Association, in a paper on Vaccination and Inoculation in Zymotic Diseases read by him at the June meeting of the Association, argued that the good effects resulting from vaccination in the case of small-pox tended to show that there was strong reason to conclude that the application of the same principle to other zymotic maladies would be productive of corresponding benefit. He believed that it was possible by energetic preventive measures to practically annihilate these diseases. Dr. Hunt urged upon all Medical Colleges in the United States to pay more attention to public hygiene—a subject which, he regretted to say, occupied a less prominent position in his own country than it did in England.

ON INDUCTION COILS.

To the Editor of THE LANCET.

SIR,—I am amused at Mr. de Watteville's accusation, that I beg the whole question with regard to unipolar currents. My reply might aptly be *tu quoque*; for he has brought nothing but algebraic formulæ and his own opinion to bear against facts. In his first letter he utterly denied to the make current either polarising or electrolytic virtues, and when I gave proof to the contrary, he sarcastically thanks me for affording him instruction out of text-books. He now shifts his ground, and makes it a question of resistance. Experiments, however, prove that even with a large resistance the make current is by no means obliterated. An old medical coil of mine, with an interposed resistance of 1000 ohms, will deflect a galvanometer nearly as far with the make as with the break current; the make current can also be readily felt by placing a finger of each hand on the electrodes. There is no lack of resistance, I take it, in either case; nor can it be denied that the latter is an instance of producing "an appreciable influence on the human body." I presume Mr. de Watteville is joking when he invites me to pass a make current for twenty-four hours through a voltameter of high resistance, and await the issue; a break current similarly tested would yield but meagre results.

Mr. de Watteville's concluding remarks are more trenchant than polite, both to your readers and to myself. His ardour, however, impels him in the right direction were he only a *leetle* less hasty in criticism.

Yours faithfully,

Manchester, July 28th, 1877. J. DIXON MANN.

*** This controversy must now cease.—ED. L.

E. H. M., (Hastings.)—The remedies proposed for whooping-cough are legion. Croton chloral is the aldehyde of crotonic acid, whereas the chloral in ordinary use is the aldehyde of acetic acid.

THE INDIAN MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—In your issue of May 19th, "Veritas" writes a strong letter on the reduction of the rate of exchange to 1*s.* 9½*d.*; but it is right that it should be known that every officer in the service of Government has just as great a grievance on this head as we have. It does not apply to us in particular.

I doubt very much whether many intending candidates for the Indian Medical Service credit the letters that appear from time to time in your valuable journal; for on arrival in this country they imagine they will draw 450 *r.* per mensem, after having passed the examination in Hindustani known as the "Lower Standard." It is true that they are led to suppose this after reading the Memorandum issued by the India Office; but it has been shown again and again in your columns that a medical officer for the first three or four years very rarely draws the pay laid down in para. 9 of the India Office Memorandum, or anything like it. This, I believe, is the principal cause of the grumbling and discontent that exist in the ranks of the junior members of the service; and unless the system of officiating appointments is done away with, I do not see how this grievance can be removed.

I would recommend all those who contemplate entering the Indian Medical Service not to look at the India Office document at all, but to read their LANCET carefully every week.

Yours &c.,

India, June 20th, 1877. BETA.

Medicus.—We cannot suggest any way in which a work of the character proposed can be produced, except by the intervention of a publisher. It would be better to submit the MS. to a good house.

"ABSTINENCE FROM ALCOHOL."

To the Editor of THE LANCET.

SIR,—With reference to the letter of "T. C. A." on the above subject, my personal experience for the last two years is in direct opposition to his. I take no alcoholic liquors, except a glass of claret or other light wine when dining out, and this is followed by constipation for the next day or two. My great gain from abstinence consists chiefly in a good state of digestion and perfect regularity of bowels. When taking even a small quantity of wine or beer, I suffered from habitual costiveness and other symptoms of indigestion, and I find the same good effect has followed in the cases of old men whom I have induced to abstain from the habitual glass (or more) of whisky-and-water at night. I refer particularly to cases of prostatic disease, in which I have rather large experience, and in this I am supported by one of the best authorities on the subject, I mean Sir Henry Thompson.

If "T. C. A." would take a teaspoonful of aromatic spirits of ammonia once or twice in the day, I think the uncomfortable symptoms he alludes to would be soon removed.

Yours &c.,

July 23rd, 1877. C. R. N.

To the Editor of THE LANCET.

SIR,—As pure water is the remedy for thirst, nutritious food for hunger, so *rest* is the common-sense remedy for exhaustion, whether it be from muscle- or brain-work, and not alcohol or coffee, as "Temperance" and "R. W." recommend.

Yours faithfully,

Maybole, July 21st, 1877. ROB. GIRVAN, L.R.C.S. Ed.

Mr. J. S. H. Sealy.—Our correspondent will have seen our remarks in THE LANCET of last week, to which we have nothing to add. He explains how he has experienced difficulties in arranging for a third opinion on the case. These difficulties are very intelligible, and clearly the time for taking such an opinion is past. Both parties in the controversy can therefore have the pleasure of thinking their diagnosis right. The only good to be got out of the dispute now is to frame such principles of conduct as to prevent exhibitions of disagreement, which are very injurious to the profession.

THE WATERS OF HOMBOURG.

To the Editor of THE LANCET.

SIR,—With reference to the unfortunate termination of Mr. Ward Hunt's case at Hombourg, when under treatment for gout, I am inclined to think that his was one unsuitable for cure by those mineral waters from the first. Having visited that place myself, and seen patients under treatment there, I consider the waters better adapted to the after-cure of gout, and that chiefly in elderly people, and to be risky and dangerous to be taken by robust or plethoric patients. For these, again, the saline waters of Wiesbaden are more suitable. Those at Hombourg contain both carbonic acid and iron, especially the Elizabeth spring, and are frequently therefore dangerous to drink by full-blooded constitutions. They ought not to be taken at all by patients except under strict medical supervision, and that under daily observation by the attendant. Proper regimen, exercise, and diet require to be strictly adhered to, the least error in these, by way of departure from, or excess in, being of risky character. In familiar language, the improper use of these waters, or their being taken in excess, renders you liable to have "your head blown off," and the patient may fall down in an epileptic fit in consequence, especially in the hot weather of summer.

I remain, Sir, yours truly,

London, July, 1877. PODAGRA.

Justitia.—We regret that the copy of the correspondence sent to us has been mislaid. If our correspondent will favour us with another copy, we shall give it early attention.

STRYCHNINE AS A SUBSTITUTE FOR QUININE.

To the Editor of THE LANCET.

SIR,—Now that quinine is such an enormous price, I would suggest to your readers the desirability of prescribing in lieu thereof other and cheaper drugs. The cases are few indeed in which other officinal drugs may not be substituted for quinine, and equally satisfactory results be obtained. For several months past, both in private and dispensary practice, I have prescribed the officinal solution of strychnine in nearly all the cases where formerly I should have ordered quinine, and I am sure that the substitution has not been in the slightest degree prejudicial to the patients. It is a very cheap preparation, and as a tonic in cases of general debility and nervous prostration it will, as a rule, be found fully equal to the more expensive drug. I have also found it answer well in neuralgia. I scarcely need say that I should not allow it to take the place of quinine in cases where there is extreme pyrexia, or in puerperal fever, or cases where a reliable antiperiodic is indicated. Its action should be carefully watched, as small doses have a very sensible effect on some patients, and accuracy in dispensing is essential.

If quinine were prescribed only in those cases where it is absolutely necessary, the drug would soon be sold at a reasonable price again.

I am, Sir, yours faithfully,

Colebrooke-row, N., July 31st, 1877. GEORGE BROWN.

K.—There are good lectures in *Wiener Allgemeine Zeitung*, or in *Deutsches Archiv*. Can be obtained from Williams and Norgate.

Mr. Laurie, (Glasgow.)—The rules governing the application of crowner's law are vague.

OPERATIONS ON AGED PERSONS.

To the Editor of THE LANCET.

SIR,—I was much interested by Mr. J. Ewen's remarks on Operations on Aged Persons. Perhaps the following case may be worthy of record.

I was sent for some weeks since to see an old gentleman, bordering on ninety years of age. I found senile gangrene commencing in the hand, which spread to about the middle of the forearm, where a line of demarcation formed, and the mortified part quickly separated to the bones. Being afraid from his great age that he would not be able to bear amputation, I dissected back the sound flesh, retracted it as far as possible, and sawed through the bones. The stump is healing up well, and the old gentleman is quite hearty. Chloroform was not administered.

I remain, Sir, yours truly,

Bishop Auckland, July 25th, 1877. V. HUTCHINSON, M.D., &c.

M.D. Jena and *Inquirer* should apply to the Registrar of the Medical Council of Education at the Central Office, Oxford-street, London.

Mr. Frank Wilton.—The meeting should be called by private invitation, *not* by advertisement.

"VOLUNTEER SICK-BEARERS."

To the Editor of THE LANCET.

SIR,—Will you allow me to state that, in order to have the sanction of the medical service to the instruction in "field surgery" which it is intended to impart to the volunteer medical officers and men, application has been made to the War Office to allow the services of a surgeon instructor and sergeant of the Army Hospital Corps. We intend to follow closely the training and drill as practised by the Army Hospital Corps at Aldershot under Surgeon-Instructor Sandford Moore, who is a member of our Committee, and has kindly given us most useful advice. The amateur element will be conspicuous by its absence.

I enclose a copy of circular which is about to be forwarded to the volunteer commanding officers throughout the kingdom.

Thanking you for your kind wishes for the success of this most necessary undertaking,

I am, Sir, yours very truly,

A. MACLURE, Jun., Hon. Sec.

Queen Victoria-street, E.C., July 31st, 1877.

PROFESSIONAL ADVERTISING.

"Mr. T. Norris, M.R.C.S.E., gives medical and surgical advice every morning from ten to twelve o'clock, at Cardigan Villa, 10, Lewisham-road, Forest-hill."

Men who give advice are not apt at taking it. Otherwise we should advise Mr. Norris, as he respects his profession, not to advertise, and make himself so cheap. The above is an advertisement from a local paper. Can the College of Surgeons do nothing to restrain its members from such undignified courses?

POOR-LAW MEDICAL WORK.

To the Editor of THE LANCET.

SIR,—If your correspondent, "X. Y. Z.," has faithfully carried out paragraph 3, article 207, Glen's Orders, the guardians' resolution, that the medical officers visit the cases within an hour after admission, cannot increase their work, for the duty will have been carried out; but it would appear that the guardians had found the duty performed in a somewhat lax fashion, and have tried to remedy it.

I have been for several years connected with a very large London Poor-law infirmary, and I have always found that the best plan is to see all cases at once on admission, write out the card, the prescription, and the diet in the receiving-ward, and that thus the possibility of overlooking a patient is minimised. I will grant that it is very annoying to be disturbed three to seven times an hour; but it is far more satisfactory in the long run, and the necessity for guardians' resolutions on the subject is avoided.

As to the guardians' power to enforce their resolutions, it must be evident that they are not asking anything unreasonable, and that they are only insisting on the proper carrying out of article 207, which the medical officers, as their paid servants, undertook to do on taking office.

I am, Sir, yours &c.,

July, 1877. R. M. D.

CROTON CHLORAL IN PERTUSSIS.

To the Editor of THE LANCET.

SIR,—Allow me also to bear testimony to the value of croton chloral in pertussis. At the time of the appearance of Mr. Roberts's letter I had several cases of the disease under my care, some of them of a rather severe type. I determined to try the administration of croton chloral, and must say the effect was very good indeed. One case in particular began to give way after four or five days. I gave it in one-grain doses every four hours, more or less according to age. Of course it is beyond reason to suppose that a few cases determine the action of a particular drug; but in this instance I have found marked benefit, and I think therapeutical progress is made by general practitioners each communicating their *quotum experientiæ* in anything new to the medical journals for extended trial, as by so doing an accumulation of value may be expected. Some time since I read in THE LANCET a notice (I think by a French physician) of the value of carbazotate of ammonia in ague. I tried it, and found it succeed well, and felt that a near relative of quinine was discovered, at least so far as ague was concerned.

I am, Sir, yours obediently,

Lewes, July 31st, 1877. J. G. BRADEN, M.R.C.S.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Bastian; Dr. Morell Mackenzie; Mr. Lawson Tait; Dr. Bennett; Mr. Solomon, Birmingham; Dr. Benthall, Twickenham; Dr. Philipson, Newcastle-on-Tyne; Dr. Brown; Messrs. Auld, Burton, and Co.; Dr. Whittle, Oxford; Mr. Miller; Mr. E. Smith; Mr. Campbell; Dr. Hulme, Wigston-Magna; Dr. Kitchener, Knighton; Dr. Eshelby, Stonehouse; Mr. Jas. Stuart; Mr. Maritan; Mr. Laurence; Mr. Treves, Derby; Mr. Laver, Colchester; Dr. Hannan, Sydenham, Cork; Dr. Wigglesworth, Liverpool; Mr. Merry; Mr. Dean, Ardwick; Dr. Hunter, Melbourne Hospital; Dr. Morshead, Salcombe-Regis; Dr. Knaggs, Newcastle, N.S.W.; Dr. Jureau, Paris; Mr. Bowen; Mr. Wood; Mr. Richardson, Rusholme; Dr. Larkin, Bilston; Mr. Fox, Dover; Dr. Walters, Farrington; Mr. Berdoe; Mr. M'Gill, Leeds; Dr. Oxburn; Mr. Mann, Manchester; Mr. Jones, Manchester; Mr. Evans, Dublin; Dr. Thompson; Mr. Wilton, Paris; Mr. Braden, Lewes; Mr. Fosbroke; Mr. King; Mr. Maitland; Mr. Walker, Stirling; Dr. La Rocque, Montreal; Mr. Hope, Liverpool; Mr. Fowke; Dr. Parsons, Dawlish; Dr. Laurin; Dr. Grubb, Waterbeach; Dr. Elliott, Bristol; Mr. W. Davies; Dr. M. M. da Sa. Vianna, Paris; Dr. Semple; Mr. Lee; Mr. Herbert; Mr. Harvey; Dr. Morgan, Bishopswearmouth; Dr. Watson, Glasgow; Mr. Sealy; Dr. Fowler, New York; Mr. Jones, Doverscourt; Podagra; Medicus, Exeter; R. M. D.; Justitia; F.R.C.S.; D.; Medicus, Banbury; Inquirer; The Registrar-General of Edinburgh; M.R.C.S.; R. H. M., Hastings; Medicus, Islington; The Dean of the National Dental Hospital; Statim; M. B.; M. A. G.; Alpha; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Gimlette, Southsea; Mr. Ramsay; Mr. Hemming; Mr. E. Croft; Mr. Charlton; Dr. Aspinall, Over Darwen; Mr. Cornish; Dr. Stevens, Stoke Newington; Dr. Ballingall, Hull; Dr. Grant; Mr. Senar, Pembroke; Dr. Thomson; Dr. Buttercase, Dudley; Mr. Humphreys; Messrs. Beaman and Co.; Mr. Franklin, Chiswick, Leicester; Mr. Robison; Mr. Harris, Birmingham; Mr. Tiechurst, Hastings; Mr. Macrae; Dr. Henchey, Quebec, Canada; Mr. Sheeshy, Victoria; Mr. Field; Messrs. May and Co., Malton; Mr. Stephens; Mr. Crow; Dr. Wilson, Alton; Mr. Collins, St. Columb; Dr. Hannah, Ashton-in-Makerfield; Mr. Bates; Dr. Lister, Ashton; Dr. Dawes, Gawler, South Australia; Mr. Griffiths; Mr. Clark, Manchester; Mr. Shaw; Alpha, Wimbledon; Theta; A. D. L.; Delta, Newcastle-upon-Tyne; H. W., Hastings; B., Southampton; J. J. C., Risca; C. F.; Medicus, Lewes; J. A. H.; Surgeon, Plymouth; G. S. S.; J. S., Wigan; X. Y. Z.; J. H., Chester; Medicus, Clesthorpe; M. B.; T. D.

Hexham Courant, Sanitary Record, Liverpool Weekly Courier, Sunderland Daily Post, Weekly Hampshire Independent, Eastern Morning News, Hornet, Temperance Record, and *Sydenham, Forest Hill, and Penge Gazette* have been received.

METEOROLOGICAL READINGS

(Taken daily at 8 A.M. by Steward's Instruments.)

THE LANCET OFFICE, AUG. 2ND, 1877.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8.30 A.M.
July 27	30·13	W.	58	62	90	74	54	...	Overcast
,, 28	30·17	W.	56	61	102	78	53	...	Overcast
,, 29	30·23	W.	60	76	122	85	52	...	Fine
,, 30	30·29	W.	60	63	113	86	58	...	Overcast
,, 31	29·66	W.	63	71	120	89	60	...	Fine
Aug. 1	29·86	N.W.	56	62	106	71	58	...	Cloudy
,, 2	29·95	N.W.	53	59	...	...	51	...	Cloudy

Medical Diary for the ensuing Week.

Monday, Aug. 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

Tuesday, Aug. 7.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Aug. 8.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1½ P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, Aug. 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

Friday, Aug. 10.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 3 P.M.

Saturday, Aug. 11.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can be forwarded only as book packets, and *prepaid* as such.

TERMS OF SUBSCRIPTION TO THE LANCET.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year ..... £1 12 6 | Six Months £0 16 3

TO THE COLONIES AND INDIA.

One Year £1 14 0

Post Office Orders in payment should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable to him at the Post Office, Charing-cross.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under	£0 4 6	For half a page	£2 12 3
For every additional line ...	0 0 6	For a page	5 0 0

The average number of words in each line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday; those from the country must be accompanied by a remittance.

N.B.—All letters relating to Subscriptions or Advertisements should addressed to the Publisher.

Agent for the Advertising Department in France—

Mons. DE LOMINIE, 208, Rue Grenelle St. Germain, Paris.